A Dissertation on

CROSS-SECTIONAL STUDY OF PREVALENCE AND SEVERITY OF ANXIETY, DEPRESSION AND BODY IMAGE DISTURBANCE IN AMPUTEES IN A TERTIARY CARE HOSPITAL

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DEPARTMENT OF PSYCHIATRY
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CERTIFICATE BY THE INSTITUTION

This is to certify that Dr. Jyosna B.N., Post Graduate Student [MAY 2016 to MAY 2019] in the Department of Psychiatry, Government Stanley Medical College, Chennai- 600 001, has done this dissertation entitled " **CROSS-SECTIONAL STUDY OF PREVALENCE AND SEVERITY OF ANXIETY, DEPRESSION AND BODY IMAGE DISTURBANCE IN AMPUTEES IN A TERTIARY CARE HOSPITAL**" under my guidance and supervision in partial fulfilment of the regulations laid down by The Tamil Nadu Dr. M. G. R. Medical University, Chennai, for M.D. [Psychiatry] Degree Examination to be held in April 2019.

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DECLARATION

I, **Dr. JYOSNA B.N.**, declare that I have carried out this work entitled "**CROSS-SECTIONAL STUDY OF PREVALENCE AND SEVERITY OF ANXIETY, DEPRESSION AND BODY IMAGE DISTURBANCE IN AMPUTEES IN A TERTIARY CARE HOSPITAL**" under the guidance of **Dr.W.J.Alexander Gnanadurai** in the Department of Psychiatry, Government Stanley Medical college and Hospital. I also declare that this bonafide work or a part of this work was not submitted by me or any other for any award, degree, or diploma to any other university or board either in India or abroad.

This work is submitted to The Tamil Nadu Dr. M. G. R. Medical University, Chennai in partial fulfilment of the rules and regulation for the M.D. [Psychiatry] Degree Examination.

DR. JYOSNA B.N.

CERTIFICATE-II

This is to certify that this dissertation work titled "**CROSS-SECTIONAL STUDY OF PREVALENCE AND SEVERITY OF ANXIETY, DEPRESSION AND BODY IMAGE DISTURBANCE IN AMPUTEES IN A TERTIARY CARE HOSPITAL**" of the candidate **Dr. JYOSNA B.N**. with registration number 201628052 for the award of **M.D. PSYCHIATRY** in the branch of **XVIII**. I personally verified the urkund.com website for the purpose of plagiarism check. I found that the uploaded thesis file contains from introduction to conclusion pages and result shows **2%** percentage of plagiarism in the dissertation.

Guide & Supervisor sign with Seal

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ABBREVIATIONS

GHQ -	General Health Questionnaire
HAM-A -	Hamilton rating scale for anxiety
HAM-D -	Hamilton Rating Scale for Depression
SD -	Standard Deviation
MBSRQ -	Multidimensional Body-Self relations questionnaire
AE -	Appearance evaluation
AO -	Appearance orientation
BAS -	Body areas satisfaction
SES -	Socio Economic Status
UL -	Upper Limb
LL -	Lower Limb

INTRODUCTION

INTRODUCTION

OVERVIEW

Amputation is a traumatic or surgical process of the removal of all or part of the limb or extremity such as arm, leg, foot, hand, toe or finger. Most of the surgical amputations are done for different metabolic, vascular and endovascular diseases. Amputation is done when the purpose of the limb is no served and is causing great pain or threatens health because of extensive infection. It is performed only when salvaging the limb is unlikely.

Ambroise Paré was one of the pioneers of amputation. In the 16th century, he designed comparatively sophisticated prosthesis and used ligature to control hemorrhage the occurred after amputation. (Kim et al., 1996) As a results of improvements in transportation methods , the development of mechanical civilization, and the prolongation of life there are increasingly more amputations nowadays (Kim et al., 1996).

TYPES OF AMPUTATION

There are various types of amputations:

Lower Limb Amputations

Lower limb amputations vary from the partial removal of a toe to the loss of the whole of lower limb and part of the pelvis.

Usual forms of lower limb amputation are summarized in the following list:

• Partial foot amputation – It is a type of amputation which affects walking and balance. Here one or more than one toes are amputated.

• Ankle disarticulation –In this amputation the foot is amputated at the level of ankle and this would result in the person still being able to walk without the need of a prosthesis

• Below knee amputations (transtibial) –Here, leg is amputated at a level below the knee and the knee joint is preserved.

• Through the knee amputations – In this type of amputation the knee joint and lower limb is removed. As the femur is preserved in this, the stump is able to bear weight.

• Above knee amputation (transfemoral) – Here the amputation is done above the knee joint level.

• Hip disarticulation – In this type of amputation, the entire lower limb up to and including the femur is removed. One of the types spares the upper part femur and hip joint for better shape when sitting.

• Hemipelvectomy (trans pelvic) –In this type of amputation, the entire limb along with part of pelvis is removed.

Upper Limb Amputations

Amputation of upper limb may involve a wide range from the partial removal of a finger to the removal of the entire arm and part of the shoulder. Various types of upper limb amputations are:

• Partial hand amputation - amputations can include fingertips and parts of the fingers. The thumb is the digit most affected with regards to amputation. Thumb is needed to grasp objects and the loss of this digit results in severe disability for the patient. Loss of other fingers results with grasp that has lesser precision.

• Metacarpal Amputation –In this amputation ,the entire hand except for the wrist is removed.

• Wrist disarticulation – this form of amputation involves the amputation through the wrist which preserves the function of pronation and supination

• Below elbow amputation (transradial) – – this amputation involves the removal of the forearm and the elbow joint is preserved

Above elbow amputation (transhumeral) - this amputation involves the total removal of the forearm including the elbow through the humerus.

• Shoulder disarticulation and forequarter amputation is the removal of the entire arm including the shoulder blade and collar bone.

PSYCHOLOGICAL DISTRESS WITH AMPUTATION

Amputation of limb is a profoundly traumatic experience both physically and emotionally and it has an influence on various aspect of a person's life. Most common cause of amputation at present is traumatic, but amputation is sometimes an elective procedure for diseases like Burger's disease, gangrene, malignancy etc. Loss of limb can cause problems in a person's perception of self, and they might view themselves as less of a human than before. There is not just a loss of the appearance that the person had before but also the functions of the limb which helped them function at their best. This loss

definitely causes a sense of helplessness and hopelessness, so the psychological problems that accompany physical disability are inevitable.

The lost limb and loss of the old body image can lead an amputee to mourn and grieve for it and they undergo the grieving process that includes fear, denial, bargaining, depression and acceptance. Some of them may even become aggressive (Kelham, 1958)

2 million people with limb loss are currently residing in the United States(Ziegler-Graham et al., 2008)

Among the amputees in united states of America, the most common causes are vascular disease which involves 54% – including diabetes and peripheral arterial disease – followed by trauma which accounts for 45% and cancer which accounts for less than 2% (Ziegler-Graham et al., 2008)

The male: female ratio for the number of amputation they undergo is 2.8:1. (Tariq and Aakash Pandita, 2015)

In India, the estimation is 0.62 amputees per thousand people. This means there are around 1 million individuals with amputation in the country. (Mohan, 1986)

In India, a study was done in Kolkata which found that the most common cause of amputation was trauma (70.3%), peripheral vascular disease emerged as the next common cause. 94.8% of all amputations were lower limb amputation and compared to 5.2% of upper limb amputation .Below knee amputation were way more in number above knee amputations . (Pooja and Sangeeta, 2013)

A person who undergoes amputation goes through a loss which is threefold in term of function, sensation and body image. Body image is one of the components that play an important role in psychological adjustment to amputation.

Body image is the combination of psychosocial adjustment of an individual, as well as the experiences, feelings and attitudes that he goes through which in turn relate to form, function, appearance and disability of their own body which is influenced by individual and environmental factors. (Horgan and MacLachlan, 2004)

Body image has also alternatively, been described as the scheme of one's own body, which we form in our minds. It was described as a dynamic construction, which could undergo revision and reconstruction in response to

internal and external stimuli. It is comprised of feelings and perception about a person's body that are constantly changing.(Flannery and Faria, 1999)

In amputation, the persistence of basic body schema despite the obvious absence of the body part causes acute distress.(Kolb, 1975) After amputation adapting to life can be difficult and there may be associated depression, anxiety and disturbed body image.(Breakey, 1997)

The society stigmatizes the amputees and this further reinforces their feelings of inadequacies. These problems arises due to the fact that body image gives a sense of self which in turn influences the way we think, behave and relate to others. (Wald and Alvaro, 2004)

Body image distortion and body image anxiety causes the patient to restrict their activities , which leads to anxiety and depression.(Horgan and MacLachlan, 2004)

Anxiety is a normal response to perceived stressor or threats and is manifested by feelings of nervousness or fear, recurrent and uncontrollable tension, worries, feelings of apprehension, associated with various physical responses such as palpitation, sweating, dry mouth, difficulty in breathing, feeling of choking, muscle tension etc.

Depressed patients show low mood, loss of interest or pleasure in daily activities, feelings of guilt or low self-worth, disturbed sleep or appetite, fatigue and poor concentration.

Prevalence is 5 to 12% for men and 10 to 25% in women. Major depression is more common in women compared to men up to 2–3 folds. Among the amputees assessed in surgical or rehabilitation clinics, 20-60% are diagnosed as clinically depressed.(Kashani et al., 1983)

In case of a traumatic amputation, the individual's response to the traumatic event is influenced by personality traits, psychiatric premorbid state, gender, peritraumatic dissociation, prolonged disability of traumatic events, lack of social support and inadequate coping strategies (Schnyder et al., 2001)

In amputation, the commonest psychiatric disorder is depression. Depression is an undeniable companion of disabling illnesses including amputation, either as an organic symptom or as an emotional consequence.

In amputees, depression is seen as indecisiveness, thoughts of dying, or as self-harm ideation. (Langer, 1994)

Anxiety features are seen in more than half the cases with amputation and remains high up to 1-year post amputation.

REVIEW OF LITERATURE

REVIEW OF LITERATURE

Depression

Depression is one of the measures that can be used to assess the psychological adjustment in amputation cases.

Depression in the post-operative inpatient period

In a study done in U.K, which included a group of 105 patients, the levels of depression were assessed using HADS scale 28 days after the amputation. 26.7% of them were found to have significant levels of depression. When they were assessed again at 54 days the depression rates had dropped to 3.8% (Singh et al., 2007). A sample of 42 amputees were studied in Nigeria within a month of their surgery. Among them 59.5% had depressive symptoms when assessed with Zung Self- Rating Depression Scale.(Mosaku et al., 2009)

Similarly, in a study done in Jhansi, India which included 72 amputation patients, examined within 1 and half months of amputation during their inpatient stay, showed high rates of depressive features i.e. about two third of the study population.(Shukla et al., 1982).

Another study done in Lucknow, India, which included 26 subjects who had undergone amputation were examined within 6 weeks of post-operative period,

revealed a diagnosis of major depressive disorder in 19.2 % of the patients. (MALL et al., n.d.)

Most previous amputee studies have also found a high prevalence of between 21% and 41% (Kashani et al., 1983) (Hill et al., 1995) (Schubert et al., 1992) in a variety of settings, from community to army casualties. But on the other hand , a few studies report only a little to none difference in levels of severity or presence depression inpatients in a hospital setting.(Breakey, 1997; K. Fisher and Hanspal, 1998; K Fisher and Hanspal, 1998)

Depression post amputation 3 months up to 2 years

A Mexican study of 40 amputees after 12 to 24 weeks of their amputation surgery revealed 92.5% of depression and suicide attempts in 27.5 % .(Arias Vázquez et al., 2018).

The most common associated psychiatric disorder was found to be major depressive disorder (71.2%). among the 59 amputees studied at AIIMS Delhi, India. The study was conducted using MINI (7.0.0.) within 3 months of amputation surgery due to traumatic injury. Among them, 30.5% of participants expressed a varying degree of suicidal thoughts. (Sahu et al., 2017) .

30% of the 30 amputation patients studied 23 median months since the surgery showed depressive features on Beck's depression inventory with a score higher than 10.(Bodenheimer, Anthony J. Kerrigan, S, 2000)

Another study revealed 25% amputees suffer from depression, feeling of insecurity, self-consciousness and restlessness (Parkes, 1976)

35% of the 65 patients, evaluated for depression using the Beck Depression inventory , were found to have major depressive disorder. (Kashani et al., 1983)

In a study done in a rehabilitation setting , done in Germany among 178 above knee amputees who had undergone amputation at least 2 years prior , were found to have severe depression in 16 %. (Gerhards et al., 1984) 50 amputees who underwent amputation in the past one year were studied in a hospital setting at Pune, India using the HADS scale. They found depression rates to be high and they reduced when they were given psychological intervention. (Srivastava et al., 2010)

In a study conducted in Germany, 75 patients with lower limb amputation were examined for depression which revealed that 27% were suffering from depression. (Seidel et al., 2006)

Interestingly, there was a study done among prosthesis users with amputation done within past two years who showed low levels of depression at the rate of

13% but their GHQ scores indicated that almost 50% were at risk for psychiatric illness. (Thompson and Haran, 1983)

Depression post amputation (2- 10 years)

When compared to the high levels of depression found amongst amputees for up to 2 years following amputation, there wasn't much increase in depression up to 10 years.

Higher rates of depression compared to general population was seen only in a few studies. Two such studies used Centre for epidemiological studies depression scale to assess and among 160 amputees depression was found to be 21% (Williamson et al., 1994) and 23% among 89 amputees at outpatient clinics who were studied in the USA. (Rybarczyk et al., 1992)

Another study that found high rate of depression was done in Jordan. 56 patients with unilateral lower extremity amputation with mean duration (8.4 +/- 5.75 years) were assessed for levels of depression by the Hospital Anxiety and Depression Scale (HADS) and 37% showed depressive symptoms.(Hawamdeh et al., 2008)

In an Indian study done in Kashmir , which studied 100 amputees major depressive disorder (63%) was the most diagnosed psychiatric disorder according to DSM IV .(Mansoor et al., 2010)

In a study done in Washington, USA, 298 Vietnam war participants and the 283 Iraq war participants were studied using the HADS questionnaire. The number of years since initial limb loss is 38.6 ± 4.0 years for the Vietnam war cohort compared with 3.1 ± 1.2 years for the Iraq war cohort depression was at the rate of 24.5% for Vietnam veterans compared to OIF veterans who had 24%.(Reiber et al., 2010)

Although there were other studies which did not reveal much difference when compared to general population. Such as a study which compared 19 amputees who had an amputation done within last 5 years, with 40 non-disabled persons using a brief structured interview. They concluded that similar rates of depressive symptoms were found. They did not use any scales to quantify their findings. (Furst and Humphrey, 1983) In a study done among 67 amputees who had undergone an amputation within last year found depression rates to be 13.4% using the HADS scale. (Atherton and Robertson, 2006)

In a study 94 patients were assessed using the Millon Clinical Multiaxial Inventory (MCMI) which showed only a lesser portion of them having dysthymia.(Marshall et al., 1992)

Depression post amputation beyond 10 years

Higher rates of depression were seen among most studies that studied that cross-sectional depression rates beyond 10 years of depression.

Similarly, in a group of 84 adults who had an amputation about 17 years ago on average were assessed for depression using CES D scale which showed depression rates of 24 %.(Behel et al., 2002)

Another study which used CES D scale was conducted among 112 amputees after more than 10 years of amputation. The depression rate was 28%.(Rybarczyk et al., 1995)

These findings have been corroborated by other similar studies. (Hill et al., 1995; Williamson et al., 1994)

24.5 % depression among the Vietnam veterans studied around 38 years after their amputation. (Reiber et al., 2010)

Although the other two cross-sectional studies conducted at 20- 30 years post amputation reported rates similar to those seen in general population.(Dunn, 1996; Gerhards et al., 1984)

ANXIETY

Another way to assess the psychological well-being is to assess anxiety as it interferes with concentration and affects the quality of life.

Up to 1-year post amputation studies report high levels of anxiety. It varied from 25% to 67% among amputees within first year post amputation

In a study done in India 53% of younger participants reported anxiety immediately post amputation.(Shukla et al., 1982)

105 patients assessed for anxiety with HADS in the UK had anxiety rates of 24.8%, 28 days after the amputation. When they were assessed again at 54 days the anxiety rates had dropped to 4.8 %.(Singh et al., 2007)

25 patients who had undergone amputation within past 6 weeks were assessed using HAM-A scale and 30.8% showed anxiety symptomatology.(Mall et al., 1997)

42 Nigerian amputees were studied for anxiety rates using State trait anxiety inventory at 7 days to 28 days since amputation. Anxiety rate was found to be 64.3%.(Mosaku et al., 2009)

20% of the patients in a study conducted in Delhi showed anxiety. It was done among 59 amputees who had amputation done within past 1 year most of them within 3 months. They used MINI neuropsychiatric interview.(Sahu et al., 2017)

Anxiety was assessed among a group of 56 amputees from Jordan 8 years post amputation reported the level to be 37.5% (Hawamdeh et al., 2008)

50 amputees who underwent amputation in the past one year were studied in a hospital setting at Pune, India using the HADS scale. They found anxiety rates to be high (7.58 score on average) and they reduced when they were given psychological intervention. (Srivastava et al., 2010)

A total of 100 consecutive cases of amputation were studied and diagnosed according to DSM IV, and anxiety disorders were seen among 40% of patients. (Mansoor et al., 2010)

75 patients with amputations among German population were examined and 25% had increased anxiety scores.(Seidel et al., 2006)

HADS scale was given to 93 patients which showed low scores of anxiety, more with phantom limb pain. But anxiety was reported more often than depression. (K Fisher and Hanspal, 1998) Similarly , other studies done in the area by same author reported low anxiety rates.(K. Fisher and Hanspal, 1998)

A 25 item scale Clinical anxiety scale was given to 110 unilateral amputees and most of them scored in the lower range around 8- 10 out of the total of 56. (Breakey, 1997)

30 lower limb amputees were assessed for anxiety using the State trait anxiety inventory. The mean score was 34± 5 for state anxiety and for trait the mean score was 34±0, which is within normal range for adult population.(Bodenheimer, Anthony J. Kerrigan, S, 2000)

Anxiety rates were found to be within normal range among amputation patients when they were studied 2- 20 years following amputation in a few other studies done cross-sectional.

BODY IMAGE

Another aspect that can be measured to assess the psychological adjustment to amputation in body image.

Body image can be defined as a loose mental representation of body shape, size and form. It is influenced by the environment in the form of historical, cultural and social factors; individual and biological factors also play a role.

The disfigurement due to amputation can cause a negative body image and may also lead to reduced social acceptance (Jacobsen, 1998)

One of the factors which leads to society stigmatizing the amputees may be the way they perceive themselves. Non-disabled people may make presumption that the disabled people are weak or incapable only on the basis of their disability due to the perception of stigma .(Horgan and MacLachlan, 2004)

Body image distortion and body image anxiety occur among some people who have amputation (Horgan & MacLachlan 2004). This phenomenon was noticed in the early studies. The literature published initially describes the body image anxiety they noticed among post amputation patients. But qualitative analysis wasn't done in those studies (Friedmann, 1978; Frierson and Lippmann, 1987; Furst and Humphrey, 1983)

Meanwhile, there is growing evidence that these problems are related (Brenes et al. 2008). Losing a limb has been found to dramatically change a person's sense of body image and consequently self-image, which has, in turn, been associated with a person's satisfaction with life (Saradjian, Thompson & Datta 2008). Moreover, such anxiety has been found to be associated with depression, poorer perceived quality of life, lower levels of self-esteem, and higher levels of general anxiety (Horgan and MacLachlan, 2004)

A study done in Jaipur, India among 50 amputees were assessed using Fisher's Body distortion questionnaire when compared to 50 surgical patients revealed a significant difference in the score. (Bhojak and Nathawat, 1988)

A cross-sectional study conducted in Italy among 298 patients (149 amputees with lower limb amputation and 149 controls) 6 months post amputation, assessed body image by a questionnaire called Multidimensional Body-Self Relations Questionnaire. Unilateral lower-limb amputees showed a significant lower score

in Body image when compared to controls. In subscales such as appearance evaluation, fitness evaluation, fitness orientation, health orientation, illness orientation and the Overweight Preoccupation Scale, lower-limb amputees had statistically significant lower scores.(Holzer et al., 2014)

Thirty-eight individuals with lower limb amputations related to diabetes participated in the study, with ages ranging from 43 to 85 years. The study was conducted on a median of 36 months from amputation. The body image assessment was done using ABIS-R (Amputation Body Image Scale—Revised) which is used in those who have prosthetics. Body image disturbance was strongly correlated with both depression and anxiety. Although causality cannot be inferred, it is possible that body image disturbance is a risk factor for psychological distress in persons with diabetes-related amputations. Body image also had a significant relationship with the three subscales of the TAPES (The Trinity Amputation and Prosthesis Experience Scales) measuring adjustment and may thus play an important role in how a person adapts to diabetes-related amputation.

In a study, patients who had undergone amputation of lower limb and were currently in a rehabilitation program in an Italian university hospital were included. The patients were taken consecutively. The study was done over a 6 months period . Measure of Body Apperception (MBA) was used to assess Body

image. Trinity Amputation and Prosthesis Experience Scale – Revised was also administered. 14 subjects were studied here in the rehabilitation phase, around 6 months from amputation. MBA test results indicated that 13 of the 14 included patients exhibited higher scores on the body image subtest than on the body integrity subtest. They score lower without prosthesis when compared to scores with prosthesis. (Peronie et al., 2017)

44 lower limb amputees and prosthesis users were analyzed using internet survey. The body image of amputees and their relation to the prosthesis was assessed using the Amputee Body Image Scale and the Trinity Amputation and Prosthesis Experience Scales, and found a highly negative correlation between body image disorder and prosthesis satisfaction. The largest discrepancy being between the male and female correlations on aesthetic satisfaction and BID.(Murray and Fox, 2002)

In 112 amputees body image and perceived social stigma were found to be important predictors of psychosocial adjustment to leg amputation. Body image was found to be an independent predictor of depression, quality of life, and prosthesis ratings. (Rybarczyk et al., 1995)

When 108 amputees were assessed using Body image questionnaire in the UK, body image was significantly correlated with anxiety but had no relationship with depression. It also had correlation with mobility.(K Fisher and Hanspal, 1998)

Body image was also found to be significantly correlated to life satisfaction (Breakey, 1997)

Body image was found to be associated with depression and anxiety in various studies.(Breakey, 1997; Desteli et al., 2014; K. Fisher and Hanspal, 1998)

SOCIO-DEMOGRAPHIC DETAILS AND ITS CORELATION WITH PSYCHIATRIC MORBIDITY

AGE

Age is probably one of the mediating factors in adjustment to amputation.

No significant association between sociodemographic features and psychological reaction was found in many studies (Behel et al., 2002; Bhutani, 2016; Hawamdeh et al., 2008; Rybarczyk et al., 1995; Shukla et al., 1982; Wen et al., 2018)

Age was found to be significantly associated with anxiety but not with depression when 108 amputees were assessed at UK, using Hospital anxiety and depression scale about 14 years from amputation.(K. Fisher and Hanspal, 1998)

When 61 amputees were assessed for disability related factor, coping strategies and the sociodemographic details as predictors for psychological adjustment using

Reaction to impairment and disability inventory and acceptance of disability scale, age was found to be one of the significant factors which affected the psychological outcome.(Livneh et al., 1999)

Age was found to have significant negative correlation with depression and anxiety in traumatic amputees.(Mosaku et al., 2009)

Similarly, some other studies support the finding that older patients tend to do better psychologically when compared to young patients.(Frank et al., 1984; Narang et al., 1984; Williamson et al., 1994)

However, in a study done in India, older age group had more depression and anxiety though not significantly correlated(Bhutani, 2016)

Activity restriction due to amputation might mediate age and depressive features (Dunn, 1996)

There was no significant relationship between age and body image issues in a few studies (Breakey, 1997; K. Fisher and Hanspal, 1998)

Age was found to be a significant factor while determining the rehabilitation outcome at various time periods especially with respect to activity restriction. (Helm et al., 1986; Pohjolainen et al., 1990). Only one study showed no significance.(Corbin, 2003)

GENDER

Another sociodemographic detail that could affect the psychological outcome to amputation is gender. Most studies conducted in this area found that gender did not affect the psychological outcome significantly.(Behel et al., 2002; Williamson et al., 1994; Shukla et al., 1982; Rybarczyk et al., 1995; Srivastava et al., 2010)

In studies which have examined the effect of gender and found significance, report that females fare worse than males when the psychological measures are assessed. Studies show that women are more likely to have depression and score significantly worse when emotional adaptation to role changes was assessed. (Frank et al., 1984)

Among the one 140 unilateral amputees studied unilaterally for gender differences in psychological outcomes following amputation in Haiti, males were found to have worse psychosocial adjustment when the outcomes were adjusted for strenuous activities and phantom pain.(Wen et al., 2018)

One study found that women may be more prone to body-image anxieties following amputation than are men.(Furst and Humphrey, 1983)

Gender difference was assessed among 298 amputees using the Multidimensional Body-Self Relations Questionnaire (MBSRQ) which revealed significantly lower appearance orientation in females than males.(Holzer et al., 2014)

In a study 58 upper and lower limb amputees were assessed and it revealed women to have more body image anxiety than men. (Desteli et al., 2014)

EDUCATION

Education level was not found to be significantly associated with psychological reactions to amputation. (Behel et al., 2002; Bhutani, 2016; Hawamdeh et al., 2008; Rybarczyk et al., 1995; Shukla et al., 1982; Wen et al., 2018)
However, in one study which was done among 146 individuals found that amongst younger people, having a high school education was associated with greater levels of bodily pain than having lower levels of education. This study also found that a significantly better outcome was seen on physical role functioning when they had a college degree when compared to those with a lower degree. (Pezzin et al., 2000) Level of education was also found to be associated with more depressive symptoms.(Mosaku et al., 2009)

MARITAL STATUS

Marital status implies the social and emotional support a person might receive. In the amputation literature, in a study done one month post amputation, coping

responses and solicitous spouse responses were significantly associated with increased level of depression and phantom limb pain.(Jensen et al., 2002)
Most studies have found that perceived social support plays a beneficial role.(Horgan and MacLachlan, 2004). In one qualitative study, participants remarked that one of the factors promoting a successful rehabilitation post-amputation was the existence of family support. Many studies that were qualitative have found that lower perceived quality of life was associated with more social isolation and lower perceived level of support.(Rybarczyk et al., 1995)This was also significantly associated with depressive symptoms. (Rybarczyk et al., 1992, 1995; Thompson and Haran, 1983; Williamson et al., 1994; Mosaku et al., 2009)

INCOME

Socioeconomic status has shown no significance in occurrence of psychiatric morbidity in amputation. (Shukla et al., 1982)
Although one study did find that those with lower income had more activity restriction.(Williamson et al., 1994) However, in spite of this, no study had found depressive symptoms to be related to income level of amputees. (Behel et al., 2002)

AMPUTATION RELATED FACTORS AND ITS EFFECTS ON PSYCHOLOGICAL ADJUSTMENT

CAUSE OF AMPUTATION

Cause of amputation as potential factor in predicting of psychological adjustment to amputation, differences in psychological reaction between those who have lost their limb as a result of trauma and those who had amputation due to vascular disease have been described(Horgan and MacLachlan, 2004)

Denial was more likely to be seen with trauma-related amputations, while anger and hostility was more likely to be seen with people with vascular- related amputations.(Horgan and MacLachlan, 2004)

One study which had 178 amputees due to war injury or accident found that cause of amputation, in the sense of being convinced as to the necessity of amputation, was associated with lower levels of depression post-amputation. (Gerhards et al., 1984)

Compared to disease related amputations, younger adults who had amputation due to traumatic causes had higher risk of depression. (K Fisher and Hanspal, 1998; Hawamdeh et al., 2008; Livneh et al., 1999)

Other studies which assessed the relationship between the cause and psychiatric morbidity found no effect of amputation cause on psychiatric symptoms,(Shukla et al., 1982) anxiety and depressive symptoms(Kashani et al., 1983; Rybarczyk et al., 1995)

LEVEL OF AMPUTATION

One of the factors important in prediction of successful amputation is the level at which amputation was done.(Pohjolainen et al., 1990) Studies have shown that as the level of amputation increased , prosthesis use decreased. Level of amputation so in turn affects the activity. Higher the level of amputation more activity restriction is seen especially among middle aged and older people with amputation. (Horgan and MacLachlan, 2004) Even though studies have consistently shown that above knee amputation have poorer rehabilitation outcomes and increased activity restriction , it is not found to be more associated with increased levels of anxiety, social discomfort, psychiatric symptoms, depression or adjustment to amputation . (Behel et al., 2002; Horgan and MacLachlan, 2004; Shukla et al., 1982) In one study that assessed the relationship between level of amputation and its psychological impacts, it showed that those people with a below knee amputation were more likely to be depressed than those with an above knee amputation. In explaining this finding, it was suggested that

because individuals with BK amputations are less severely disabled in terms of functioning than those with AK amputations, they may be in a better position to compare their functional abilities with their premorbid abilities and, as a result, be more sensitive to the differences between themselves and able-bodied individuals.(O'Toole et al., 1985)

This finding was also supported by a later study done among 56 amputees which assessed psychiatric morbidity 8 years after the surgery and found below knee amputees to have significantly more depression than above knee amputees.(Hawamdeh et al., 2008)

UPPER LIMB VS LOWER LIMB

In a study done in Turkey among 20 upper limb and 38 lower limb amputation were included. They were using prosthesis at the time of the study. 12 out of the 20 upper limb amputation were of the dominant hand.7 of the upper limb amputees were females as well as 9 of the lower limb amputees. The Trinity Amputation and Prosthesis Experience Scales was used for adjustment, restriction, and satisfaction. Hospital Anxiety and Depression Scale (HADS) was used to assess the level of anxiety and depression. Body image disturbance was assessed using with Amputation Body Image Scale-Revised (ABIS-R) and social

discomfort was assessed using Social Discomfort Score. Study was done more than two and half years since amputation and 2 years of prosthesis use. Lower limb amputees had significantly better social adjustment. Upper limb amputees had significantly higher scores of HADS in both anxiety and depression. Body image disturbance was significantly higher in upper limb amputees compared to lower limb amputees.(Desteli et al., 2014)

Another study found there was no significant difference in psychiatric morbidity in the form of depression and anxiety between upper and lower limbs or between right and left lower limbs. However, right upper limb amputees suffered from phantom limb phenomena and insomnia significantly more often than left upper limb amputees (Shukla et al., 1982)

AIMS AND OBJECTIVES

AIMS AND OBJECTIVES:

To assess:

- The prevalence and severity of depression among amputees
- The prevalence and severity of anxiety among amputees
- Prevalence and severity of body image disturbance

METHODOLOGY:

RESEARCH METHODS

STUDY DESIGN: Cross-sectional, descriptive study of amputees during post-operative period

STUDY SETTINGS: conducted at Dept of orthopedics, surgery and vascular surgery of Govt Stanley medical college, Chennai

SAMPLE SIZE: 100

SAMPLING METHOD: convenient sampling method

Duration and period of study: 6 months, September 2017-February 2018

INCLUSION CRITERIA:

1. Informed consent from the patients under study

2. Amputation of any limb at any level

3. Age more than 18 years and less than 65 years

4. Patients were included in the study irrespective of their sex

EXCLUSION CRITERIA:

1.Those who do not give consent

2. Presence of disabling medical or neurological conditions like motor neuron disease, Parkinson disease, etc.

3. Previous history of psychiatric illness

MATERIALS

- A Semi structured proforma to collect the socio demographic details and amputation details
- The General Health Questionnaire (GHQ)
- HAMILTON RATING SCALE FOR ANXIETY(HAM-A)
- HAMILTON RATING SCALE FOR DEPRESSION (HAM-D)
- MBSRQ-Appearance Scales (MBSRQ-AS)

The General Health Questionnaire (Goldberg and Hillier, 1979)

The GHQ-28 was developed by Goldberg in 1978 and has since been translated into 38 languages. It was developed as a screening tool to detect those likely to have or to be at risk of developing psychiatric disorders. It has 28 items. It measures the emotional distress in medical setting.

The GHQ-28 has been divided into four subscales.

These are:

somatic symptoms (items 1–7);

anxiety/insomnia (items 8–14);

social dysfunction (items 15–21),

severe depression (items 22–28).

It takes less than 5 minutes to complete.

There are no thresholds for individual sub-scales. Individual sub-scales are used for providing individual diagnostic or profile information. Each item is scored as 0- no or 1-yes.

HAMILTON RATING SCALE FOR ANXIETY(HAM-A)(Hamilton, 1959)

The first version of the Hamilton Anxiety Rating Scale was developed by Max R Hamilton in 1959.

It is a clinician rated scale for assessing the severity of anxiety symptoms. It takes about 10-15 minutes to administer. It can be used in various populations such as among adults, adolescents and children.

It was developed to be used with patients already known to suffer from anxiety neurosis, not to be used as a means of diagnosing anxiety in patients with other disorders.

The scale consists of 14 items, each defined by a series of symptoms, and measures both psychic anxiety (mental agitation and psychological distress) and somatic anxiety (physical complaints related to anxiety)

Each item is scored on a scale of 0 (not present) to 4 (severe), with a total score range of 0–56, where mild severity is indicated by a score of 14-17, mild to moderate severity is indicated by a score of 18–24 and moderate to severe severity is indicated by a score of 25–30.

Hamilton Rating Scale for Depression (Hamilton, 1960)

It was first published by Max Hamilton in 1960. It is a clinician administer scale used for rating depressive symptoms. It is known by different names such as The Hamilton Rating Scale for Depression (HRSD), Hamilton Depression Rating Scale (HDRS), abbreviated HAM-D), is a multiple item questionnaire used to provide an indication of depression, and as a guide to evaluate recovery.

It is a widely used scale for assessment of depression. It take 20-30 minutes to administer. The questionnaire is designed for adults and is used to rate the severity of their depression and change in depressive symptoms.

Scoring: 0-7 normal,8-13= Mild depression, 14-18= Moderate depression, >19 Severe depression

One limitation of this scale is that atypical symptoms of depression (hypersomnia, hyperphagia) are not assessed.

MBSRQ-Appearance Scales (Cash et al., 2004)

The MBSRQ-Appearance Scales (MBSRQ-AS) is a 34-item scale that consists of 5 subscales Appearance Evaluation, Appearance Orientation, Overweight Preoccupation, Self-Classified Weight, and the BASS. It was published by Thomas F Cash in 2004. It assesses and considers only appearance related constructs of body image as described by him earlier in the initially published multidimensional body-self relations questionnaire which has 69 items. Item responses are given on a Likert scale of 1 (definitely disagree) to 5 (definitely agree). Each subscale is scored independently by using a computational formula. All subscales possess acceptable internal consistency and stability. The following three subscales are included in the study

APPEARANCE EVALUATION: It assesses the satisfaction one has with one's own looks. It scores the person's feelings of physical attractiveness or unattractiveness. High score indicates the person is mostly positive and satisfied with their appearance; low score indicates they have a general unhappiness with their physical appearance.

APPEARANCE ORIENTATION: It assesses the extent of investment in one's appearance. High score indicates that the person may place more importance on how they look, pay attention to their appearance, and engage in extensive grooming behaviors. Low score indicates that the person is apathetic about their appearance; their looks are not especially important and they do not put much effort to "look good".

BODY AREAS SATISFACTION SCALE: BAS subscale measures the satisfaction with separate aspects of one's appearance. High composite score indicates that the person is generally content with most areas of their body. Low score indicates that the person is generally unsatisfied with the size or appearance of several areas of their body.

METHOD OF COLLECTION:

Informed consent was obtained from the amputated patients in Orthopedics, Surgery and Vascular surgery wards at Govt. Stanley medical college, Chennai. Data was recorded at 2 weeks after the amputation surgery of any limb at any level. Information was obtained from patient, reliable informant and from medical records. After giving information about the study and obtaining informed consent from the patient, relevant information was obtained regarding the

sociodemographic profile and validated scales and tests mentioned above were administered.

ETHICAL CONSIDERATION:

Informed consent was obtained from the patients.

STATISTICAL ANALYSIS:

Statistical analysis was done using computerized software (SPSS-23).

Descriptive analysis like frequencies, mean and standard deviation were computed.

Chi-square tests was used appropriately depending on the data collected.

Independent samples t test and ANOVA was used to calculate significance of means.

Significance was taken as p value <0.05.

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RESULTS

RESULTS

Among the 100 amputees studied, majority of them were males (85%). Most of them were educated up to high school level (37%), followed by 27% who had primary school education. Only 9% had no formal education. Most of the population belonged to low socioeconomic status (95%) and rest belonged to middle socioeconomic status (5%). Most of them were married (85%). Majority of this population belonged to Hindu religion (85%).

Amputation in the study population was most commonly due to traumatic causes 71 (71%), followed by diabetes mellitus which accounted for 24 (24%) amputation and rest 5% was due to other causes such as 3 (3%) due to peripheral vascular disease,1(1%) due to varicose veins and 1 (1%) due to necrotizing fasciitis. 90% of limb amputations were of lower limb. 28 (66.6%), 19 (67.9%) were above knee amputations and 9 (32.1%) are below knee amputations. The remaining 14 (33.4%) amputations were of the upper limb, 9 (64.3%) were above elbow while 5 (35.7%) were below elbow amputations. The most common post amputation complication was hemorrhage 14 (33.3%), while 6 (14.3%) had infection as the major complication. Recovery of the others was essentially normal.

Table 1: Sociodemographic details

SOCIODEMOGRAPHIC DETAILS		NUMBER (%)
GENDER	MALE	85
	FEMALE	15
EDUCATION	NO FORMAL EDUCATION	9
	PRIMARY SCHOOL	22
	MIDDLE SCHOOL	27
	HIGH SCHOOL	37
	UNDER-GRADUATE	4
	PROFESSIONAL	1
AGE	20-29 years	21
	30-39 years	43
	40-49 years	11
	50-59 years	17
	60-65 years	8
SOCIOECONOMIC STATUS	LSES	95
	MSES	5
MARITAL STATUS	SINGLE	11
	MARRIED	84
	DIVORCED OR WIDOWED OR SEPARATED	5
LIVING WITH	PARENTS	9
	ALONE	3
	SPOUSE	68
	CHILDREN	5
	JOINT	15
RELIGION	HINDUISM	85
	ISLAM	6
	CHRISTIANITY	9
AREA OF RESIDENCE	RURAL	5
	URBAN	95
SOLE EARNING MEMBER OF THE FAMILY		47
INCOME	Less than Rs. 5000	9
	Rs. 5000 to Rs. 10000	90
	More than Rs. 10000	1
WORK	UNSKILLED	50
	SEMISKILLED	37
	SKILLED	3
	UNEMPLOYED	10

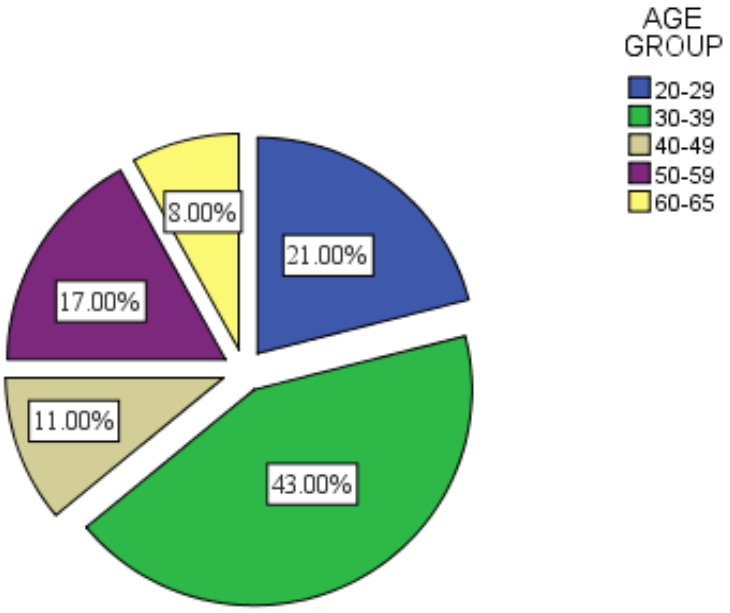
AGE

Table 2: Distribution as per age

AGE GROUP	Frequency	Percent
20-29 years	21	21.0
30-39 years	43	43.0
40-49 years	11	11.0
50-59 years	17	17.0
60-65 years	8	8.0
Total	100	100.0

The age of the amputees ranged from 20 years to 65 years. Mean age of the total sample was 39.43 years (S.D. 11.9). Amputation was most commonly found in age range of 30- 39 years, accounting for 43% of all amputees. (Table 2) The 20-29 years age group was second, accounting for 21% of all amputees, and those above 40 years accounted for the remaining 36%. (Figure 1)

Figure 1: Distribution as per Age



Lower limb amputations were more common across all age groups. Upper limb amputations were most common among 30- 39 years age group, followed by 40-49years age group. (Table 3)

Right limb amputations were more common than left limb amputation. 60.5% of 30-39 years old age group had right sided amputation. Similarly higher proportion of right limb amputation were seen among 50-59 year olds with 58.8% of them having right limb amputation and lower rates of 50% among 60-65 year olds , 45.5% among 40-49 year and 42.9% among 20-29 year olds.(Table 4)

Table 3:Cross tabulation between Age group and Site of amputation

AGE GROUP	LIMB AMPUTED				Total
	Upper limb		Lower limb		
	N	%	N	%	
20-29 YEARS	1	4.8	20	95.2	21
30-39 YEARS	5	11.6	38	88.4	43
40-49 YEARS	3	27.3	8	72.7	11
50-59 YEARS	1	5.9	16	94.1	17
60-65 YEARS	0	0	8	100	8
Total	10	10	90	90	100

Table 4: Crosstabulation between age and side of amputation

AGE GROUP	Side of amputation						Total
	Right		Left		Both		
	N	%	N	%	N	%	
20-29 YEARS	9	42.9	11	52.4	1	4.8	21
30-39 YEARS	26	60.5	16	37.2	1	2.3	43
40-49 YEARS	5	45.5	3	27.3	3	27.3	11
50-59 YEARS	10	58.8	5	29.4	2	11.8	17
60-65 YEARS	4	50.0	3	37.5	1	12.5	8
Total	54		38		8		100

Among 20-29 year age group, below knee amputations accounted for 76.2% of the total amputation in this age group, followed by 14.3% accounted by above knee amputations and 4.8% having bilateral amputations. Similarly, among 30-39 year age group below knee amputations were most common, forming 58.5%, followed by 30.2% accounted by above knee amputations, 9.3% by below elbow amputation 2.3% by above knee and 2.3% by bilateral amputation. Out of the 11 patients in 40- 49 years age group, 36.4% had below knee amputations ,27.3% had bilateral amputations, 27.3% had above elbow amputations and 9.1% had above knee amputation. Similarly, among 50-59 year olds and 60-65 year olds below knee amputations were most common, accounting for 58.8% and 50% respectively. (table 5)

Table 5: Crosstabulation between age and type of amputation

AGE GROUP	N	Bilateral(n)		Below knee(n)		Above knee (n)		Below elbow(n)		Above elbow(n)		At the level of ankle(N)	
		N	%	N	%	N	%	N	%	N	%	N	%
20-29 yrs	21	1	4.8	16	76.2	3	14.3	1	4.8	0	0	0	0
30-39 yrs	43	1	2.3	24	55.8	13	30.2	4	9.3	1	2.3	0	0
40-49 yrs	11	3	27.3	4	36.4	1	9.1	0	0	3	27.3	0	0
50-59 yrs	17	2	11.8	10	58.8	3	17.6	1	5.9	0	0	1	5.9
60-65 yrs	8	1	12.5	4	50	3	37.5	0	0	0	0	0	0
Total	100	8	8.00	58	58	23	23	6	6	4	4	1	1

Table 6: Crosstabulation between age group and comorbid illness

AGE GROUP	Comorbid illness				Total
	Nil	Diabetes mellitus	Hypertension	DM and HTN	
20-29 YEARS	21	0	0	0	21
30-39 YEARS	37	6	0	0	43
40-49 YEARS	11	0	0	0	11
50-59 YEARS	1	14	0	2	17
60-65 YEARS	2	4	2	0	8
Total	72	24	2	2	100

Most of the study population, i.e. 72% had no comorbid medical illness. Most common comorbid medical illness was Diabetes mellitus which accounted for 26% of population, 4% had hypertension and 2% had both hypertension and diabetes mellitus. Most of those having diabetes mellitus belonged to 50-59 year age group. (Table 6)

Table 7: Crosstabulation between age group and cause for amputation

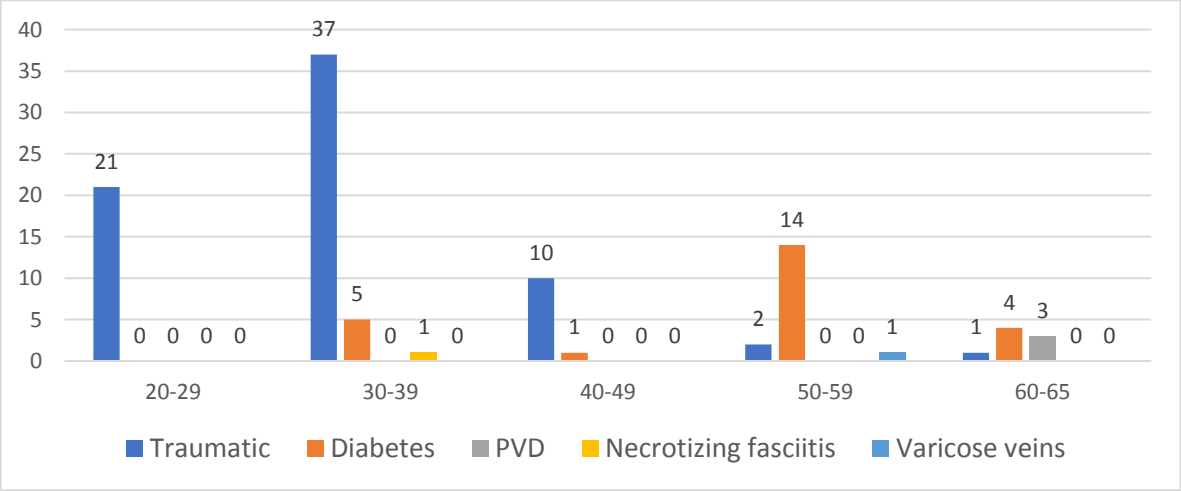
AGE GROUP	Cause for amputation										
	Traumatic		Diabetes mellitus		Peripheral vascular disease		Necrotizing fasciitis		Varicose veins		Total
	N	%	N	%	N	%	N	%	N	%	N
20-29	21	100	0	0	0	0	0	0	0	0	21
30-39	37	86	5	11.6	0	0	1	2.3	0	0	43
40-49	10	90.9	1	9.1	0	0	0	0	0	0	11
50-59	2	11.8	14	82.4	0	0	0	0	1	5.9	17
60-65	1	12.5	4	50	3	37.5	0	0	0	0	8
Total	71	71	24	24	3	3	1	1	1	1	100

In this study, 71% of amputation were due to some traumatic causes, 24% of them were due to complications of diabetes mellitus and rest 5% were due to vascular or infectious causes.

All the amputation among 20- 29 year olds was due to traumatic causes. Among 30-39 year olds, 86% of amputations were due to traumatic causes, 11.6% due to complications from diabetes mellitus, 2.3% due to Necrotizing fasciitis .90.9% of amputations among 40-49 year old age group was due to traumatic causes, whereas 9.1% was due to diabetes mellitus. Among 50-59 years age group, unlike others, most common cause of amputation was due to diabetes mellitus related complications i.e. 82.4%.

Among 60-65 year age group, 50% of amputations were due to complications from diabetes mellitus, followed by 37.5% due to peripheral vascular disease and 12.5% due to traumatic causes.

Figure 2 :Frequency of cause for amputation among different age groups



AGE AND PSYCHIATRIC MORBIDITY

AGE VS PSYCHOLOGICAL DISTRESS

Table 8: Crosstabulation between age and GHQ

AGE GROUP			PSYCHOLOGICAL DISTRESS(GHQ)				Total
			GHQ <5		GHQ>5		
	Mean	Std. Deviation	N	%	N	%	N
20-29 YEARS	10.81	4.131	2	9.5	19	90.5	21
30-39 YEARS	9.91	3.379	3	7	40	93.0	43
40-49 YEARS	9.91	2.879	1	9.1	10	90.9	11
50-59 YEARS	7.94	4.293	5	29.4	12	70.6	17
60-65 YEARS	10.50	2.000	0	0	8	100	8
Total	9.81	3.640	11	11	89	89	100
F value= 1.63		P VALUE= 0.17					

89% of the study population had psychological distress when assessed using HQ - 28 where cut off was taken as 5. 100% of the 60-65-year age group showed psychological distress with mean score of 10.5(S.D.= 2), followed by 93% of the those belonging to 30-39-year age group with mean score of 9.91 (S.D. 3.37), 90.9% of those in 40-49-year group with mean score of 9.91 (S.D. 2.87), 90.5% of those in 20-29-year age group with mean score of 10.81 (S.D. 4.13) and 70.6% of those in50-59-year age group with mean score of 7.94(S.D. 4.29). (Table 8)

The difference was not statistically significant.

Table 9 Correlation between age groups and GHQ subscales

AGE GROUP	GHQ Somatic		GHQ anxiety		GHQ social dysfunction		GHQ depression	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
20-29(n=21)	2.43	1.248	3.33	1.426	3.14	1.236	1.9	1.758
30-39(n=43)	2.05	0.899	2.72	1.26	3.19	1.314	1.95	1.647
40-49(n=11)	2.36	1.286	2.36	1.027	3.64	1.206	1.55	1.368
50-59(n=17)	1.76	0.903	2.12	1.616	2.47	1.231	1.59	1.734
60-65(n=8)	1.88	0.354	3.38	0.916	3.38	1.061	1.88	0.835
Total (n=100)	2.1	1.01	2.76	1.364	3.12	1.274	1.83	1.589
F value	1.36		2.689		1.716		0.257	
P value	1.364		0.036*		0.153		0.905	

*p<0.05 **p<0.01

Overall, age was found to have a weak negative correlation (Pearson correlation) with GHQ- somatic subscale (mean value=2.1) with R value of -0.17, GHQ-anxiety subscale (mean value=2.79) with R value of -0.139, GHQ- social dysfunction (mean value=3.1) with R value of -0.073, GHQ- depression (mean value=1.83) with R value of -0.070 and GHQ total (mean value= 9.81) with R value of -0.157.

The differences among the groups were significant for GHQ anxiety subscales on ANOVA. (P value= 0.03)

Overall 48% of the population of the study population had at least mild severity of depression.

Table 10 Crosstabulation between age groups and depression

	DEPRESSION				Total
AGE GROUP	ABSENT(HAM-D<14)		PRESENT (HAM-D>14)		
	N	PERCENT	N	PERCENT	
20-29	10	47.6	11	52.4	21
30-39	21	48.8	22	51.2	43
40-49	4	36.4	7	63.6	11
50-59	12	70.6	5	29.4	17
60-65	5	62.5	3	37.5	8
Total	52	52	48	48	100

Out of 48 patients who were depressed, 28 patients (58.3%) were younger than 35 years. Out of 21 patients in 20-29 year age group, 11 patients (52.4%) were depressed. Among 43 patients in 30- 39 year age group, 22 patients were depressed (51.2%). Depression was high among 40-49 year old age group with 63.6% of them having depression. However, most of those in 50- 59 year age group and 60-65 year age group were not depressed. (Table 10)

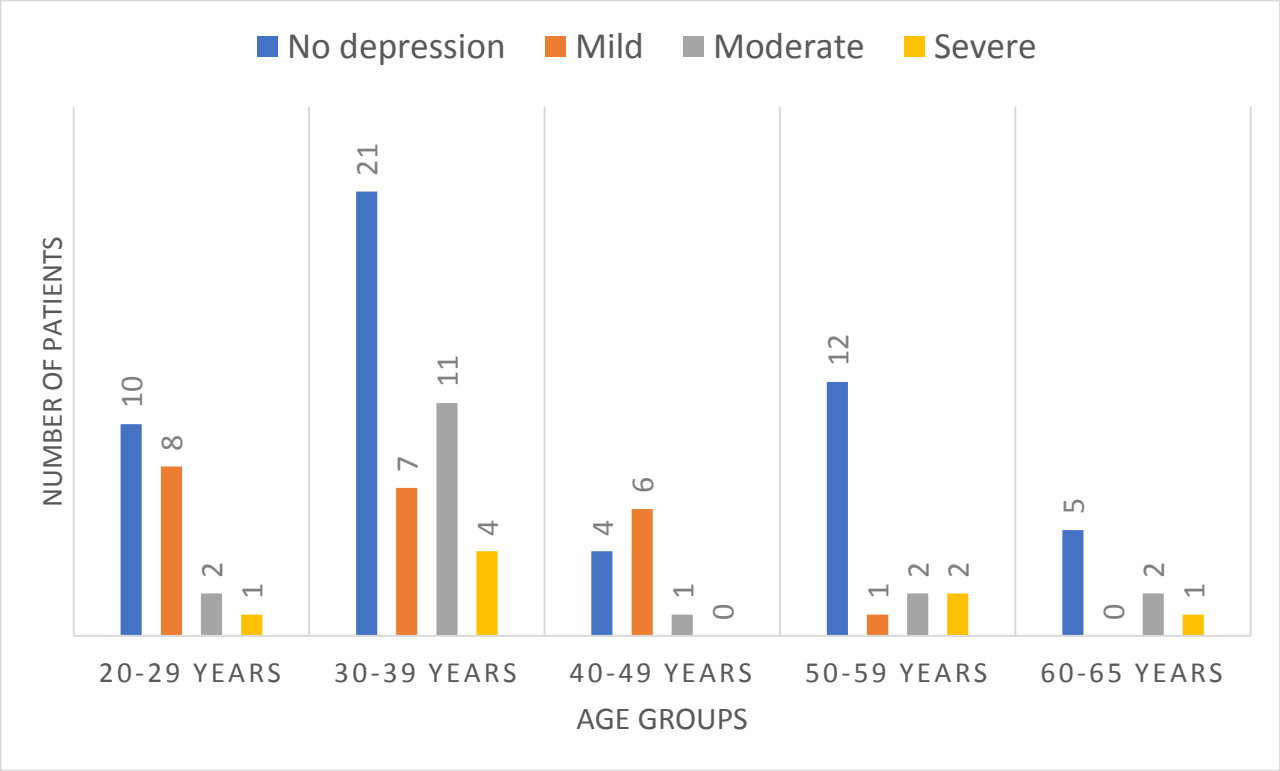
Table 11: Severity of depression among various age groups

	DEPRESSION								
AGE GROUP	No depression		Mild		Moderate		Severe		TOTAL
	N	%	N	%	N	%	N	%	
20-29	10	47.60%	8	38.10%	2	9.50%	1	4.80%	21
30-39	21	48.80%	7	16.30%	11	25.60%	4	9.30%	43
40-49	4	36.40%	6	54.50%	1	9.10%	0	0.00%	11
50-59	12	70.60%	1	5.90%	2	11.80%	2	11.80%	17
60-65	5	62.50%	0	0.00%	2	25.00%	1	12.50%	8
total	52		22		18		8		100
Chi square	19.18								
P value	0.08								

Most of the study population who had depression had mild severity. In mild severity of depression most of them belonged to 20- 29 year age group, forming 36.5% of Mild severity, followed by 7 patients in 30- 39 year age group who accounted for 31.8% of mild severity. Moderate depression accounted for 18% of the study population. This was mainly contributed by 11 patients who belonged to 30-39-year age group and accounted for 61.1% of moderately depressed patients. Severe depression was seen in 8% of the study population of which 50% was accounted by the 4 patients belonging to 30-39 year age group.

These differences were not statistically significant on chi square test.

Figure 3 : Severity of depression among various age groups



AGE VS ANXIETY

Among of 51 patients who had anxiety, 29 patients (55.8%) were younger than 35 years. 75% of the amputation patients in 60-65 year age group i.e. 6 patients were anxious. Similarly, high rates of anxiety were seen among 20-29 year old age group where 57.1% were anxious followed by 40-49 year old age group where 54.5% were anxious.

Among 30-39 year old age groups 53.5% did not report clinically significant anxiety, as did 58.8% of those in 50-59 year age group.

These differences were not statistically significant on chi square test.(Table 12)

Table 12 : Crosstabulation between age group and anxiety

	ANXIETY				Total
AGE GROUP	ABSENT(HAM-A<14)		PRESENT (HAM-A>14)		
	N	PERCENT	N	PERCENT	
20-29	9	42.9	12	57.1	21
30-39	23	53.5	20	46.5	43
40-49	5	45.5	6	54.5	11
50-59	10	58.8	7	41.2	17
60-65	2	25	6	75	8
Total	49	49	51	51	100
Chi square	8.72				
P value	0.72				

Table 13: Severity of anxiety and its distribution among various age groups

AGE GROUP	Nil	%	Mild	%	Moderate	%	Severe	%	Total
20-29 years	9	42.9	8	38.1	4	19	0	0	21
30-39 years	23	53.5	14	32.6	5	11	1	2.3	43
40-49 years	5	45.4	6	54.4	0	0.0	0	0	11
50-59 years	10	58.8	4	23.5	3	17.6	0	0	17
60-65 years	2	25	5	62.5	1	12.5	0	0	8
Total	49	49	37	37	13	13	1	1	100

Mild anxiety was seen among 37% of the total population. Majority of this was constituted by the 14 patients (37.8%) belonging to 30-39 year age group.

13% of total population was found to have moderate severity of anxiety, majority of whom were 5 patients (38.5%) belonged to 30-39 year age group.

The one patient suffering from severe anxiety also belonged to 30-39 year age group.

AGE VS BODY IMAGE

Table 14: Crosstabulation between Age groups and means of MBSRQ subscales

AGE GROUP	N	APPEARANCE EVALUATION		APPEARANCE ORIENTATION		BODY AREA SATISFACTION	
		Mean	SD	Mean	SD	Mean	SD
20-29	21	2.18	0.33	3.03	0.53	2.59	0.37
30-39	43	2.48	0.41	2.75	0.36	2.68	0.24
40-49	11	2.34	0.47	2.74	0.28	2.69	0.26
50-59	17	2.51	0.39	2.65	0.44	2.70	0.40
60-65	8	2.34	0.19	2.04	0.31	2.54	0.16
Total	100	2.39	0.40	2.73	0.47	2.66	0.30

Mean age of the study population was 39.4 years with standard deviation of 11.9 years. Appearance evaluation mean was highest among 50- 59 year age group (Mean of 2.51 & S.D.= 0.39). Higher mean appearance orientation was seen among 20- 29 year old age group (Mean of 3.03 & S.D.= 0.52) compared to other

age groups. Body area satisfaction was highest among 50- 59 year age group (Mean of 2.7 & S.D.= 0.4)

Age was found to have significant negative correlation with appearance orientation subscale of Multidimensional body self relations questionnaire with R value of – 0.4. Age had positive correlation with appearance orientation subscale and negative correlation with body areas satisfaction subscale. But it was not found to be significant.

Table 15: Correlation between age and appearance evaluation subscale

	Mean	Std. Deviation	Pearson correlation value	P value
AGE (in years)	39.43	11.902	0.155	0.123
APPEARANCE EVALUATION	2.3942	0.39742		

Table 16 : Correlation between age and appearance orientation subscale

	Mean	Std. Deviation	Pearson correlation value	P value
AGE (in years)	39.43	11.902	-0.46	0**
APPEARANCE ORIENTATION	2.7333	0.46578		

p<0.05,p<0.01*

Table 17: Correlation between age and body area satisfaction

	Mean	Std. Deviation	Pearson correlation value	P value
AGE	39.43	11.902	-0.012	0.904
BODY AREA SATISFACTION	2.6559	0.29830		

GENDER

The study population had 85 (85%) males and 15 (15%) females.

88.2% of the males and 93.3 % of females had clinically significant psychological distress as assessed by GHQ- 28. (Table 18)

Table 18: Crosstabulation between Gender and psychological distress

G HQ / Sex	<5		>5		Total
	N	%	N	%	
Male	10	11.8	75	88.2	85
Female	1	6.70	14	93.3	15
Total	11	11	89	89	100

GENDER DIFFERENCES IN DEPRESSION

Among the 15 females, 10 (66.7%) of them had depression whereas among 85 males, 38 (44.7%) had depression. (Table 19)

Table 19: Gender differences in depression

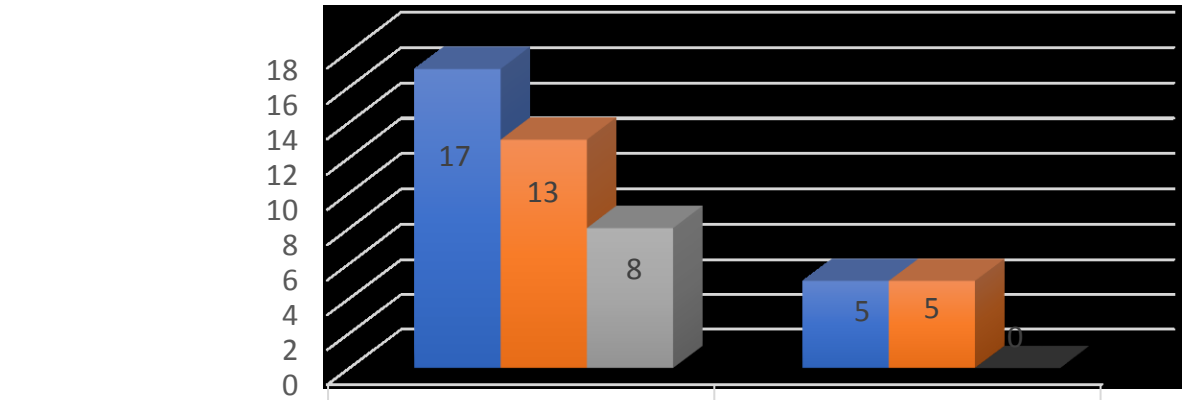
Sex	Depression		Chi Square Value	P-value
	Nil	Depressed		
Male	47(55.3%)	38(44.7%)	2.464	0.98
Female	5(33.30%)	10(66.70%)		

20% of the males had mild depression, 15.3% had moderate depression and 9.4% had severe depression. 33.3% of females had mild depression and 33.3% had moderate depression. (Table 20) (Figure 4)

Table 20: Severity of depression among gender

	Depression					
SEX	Nil	Mild	Moderate	Severe	Chi square value	P value
Male	47(55.3%)	17(20%)	13(15.3%)	8(9.4%)	5.930	0.115
Female	5(33.30%)	5(33.3%)	5(33.3%)	0(0%)		
Total	52(52%)	22(22%)	18(18%)	8(8%)		

Figure 4: Depression among gender



	Male	Female
Mild depression	17	5
Moderate depression	13	5
Severe depression	8	0

Mild depression Moderate depression Severe depression

Table 21: Correlation between gender and HAM-D score

	Depression			Mann whitney U test	
SEX	N	Mean	Std. Deviation	Z value	P value
Male	85	9.55	5.999	-1.739	0.82
Female	15	11.53	4.809		
Total	100	9.85	5.858		

Mean HAM-D scores among females (11.53±4.8) were higher than in males (9.55±5.9). There was a negative correlation between sex and HAM-D scores but it wasn't statistically significant. (Table 21)

Gender differences and anxiety

Table 22: Crosstabulation between gender and anxiety

SEX		ANXIETY		Chi Square Value	P value
	N	Nil	ANXIOUS		
Male	85	43(50.6%)	42(49.4%)	0.572	0.44
Female	15	6(40%)	9(60%)		

Among the 51 patients those who were clinically anxious, 42 patients (82.4%) were males.

9 patients (60%) of the 15 female amputees and 42 (49.4%) of the 85 male amputees were clinically anxious. (Table 22)

Among males, out of the 42 patients who were anxious 31 were mildly anxious, 10 moderately anxious and 1 patient was severely anxious. Among the females, out of the 9 patients who were anxious 6 had mild severity of anxiety and 3 had moderate severity. (Table 23)

Table 23: Severity of anxiety among gender

	HAM A								Total
	Nil		Mild		Moderate		Severe		
	N	%	N	%	N	%	N	%	
Male	43	50.6	31	36.5	10	11.8	1	1.2	85
Female	6	40	6	40	3	20	0	0	15
Total	49	49	37	37	13	13	1	1	100

Chi square value=1.176, P value=0.75

Figure 5 :Severity of anxiety among gender

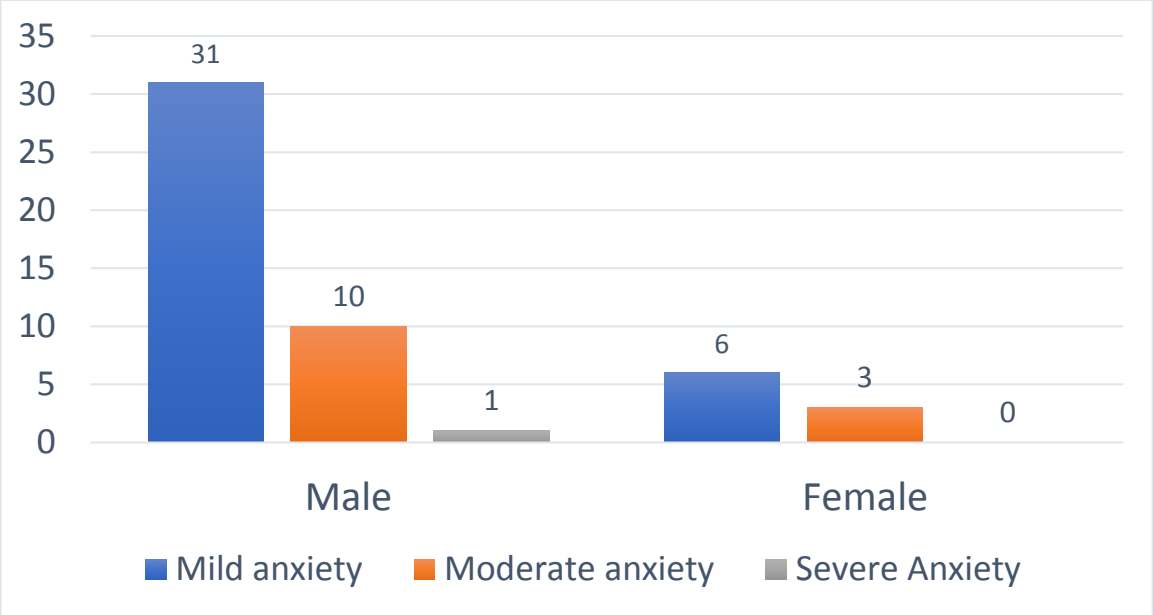


Table 24 Correlation between gender and HAM-D score

	Anxiety			Mann Whitney U test	
SEX	N	Mean	Std. Deviation	Z value	P value
Male	85	11.92	5.314	-0.986	0.323
Female	15	13.4	4.405		
Total	100	12.14	5.195		

Gender was not significantly correlated with anxiety scores (Table 24)

Appearance evaluation scores were higher among male (Mean score= 2.42± 0.3) than females (Mean score= 2.2± 0.3). Appearance orientation scores were higher among females (Mean score= 2.83± 0.34) than males (Mean score= 2.71± 0.48).

Table 25: Correlation between gender and MBSRQ subscale scores

		Appearance evaluation		Appearance orientation		Body areas satisfaction	
SEX	N	Mean	S.D.	Mean	S.D.	Mean	S.D.
Male	85	2.42	0.40	2.71	0.48	2.70	0.31
Female	15	2.20	0.36	2.84	0.34	2.58	0.24
Total	100	2.39	0.40	2.73	0.47	2.66	0.30
Z value		-1.85		0.70		0.98	
P value		0.06		0.48		0.31	

Body area satisfaction score was higher among males (Mean score= 2.66± 0.3) than females (Mean score= 2.57± 0.23). There was no statistical correlation between Body image scores and gender on Mann whitney test (table 25)

EDUCATION

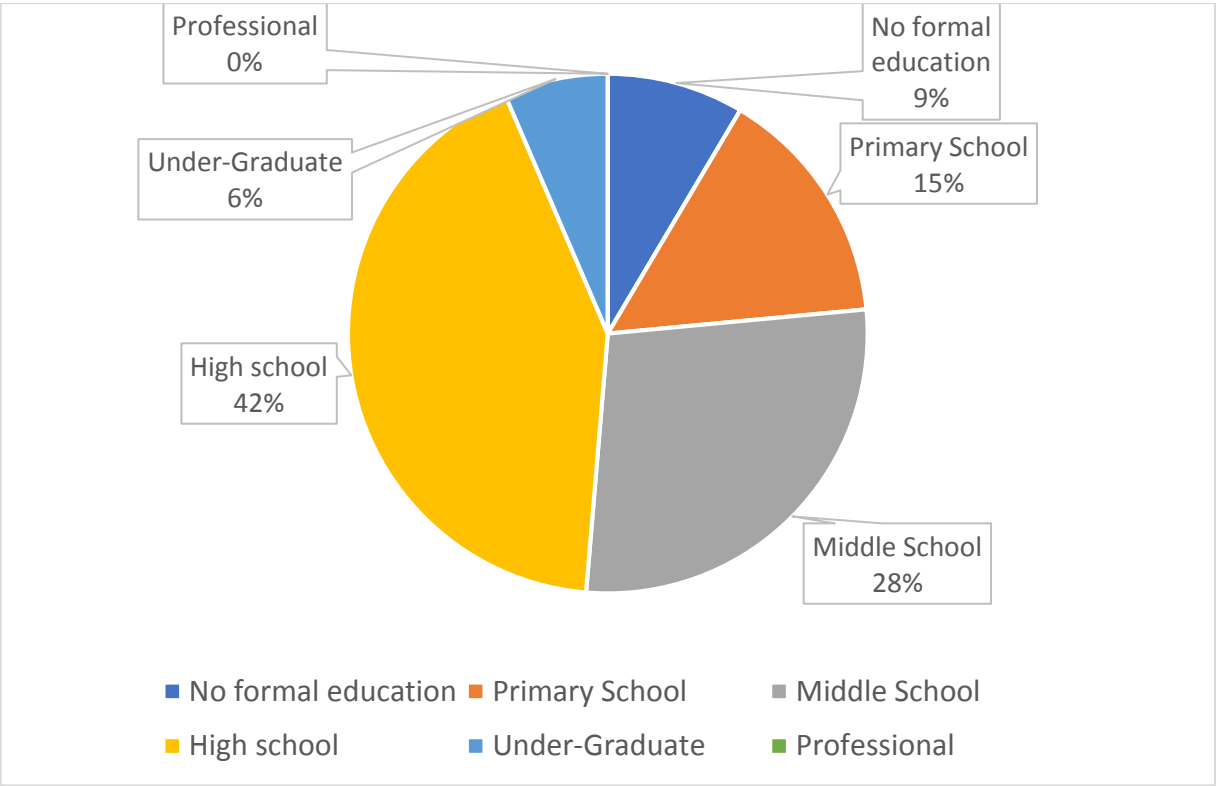
Table 26: Crosstabulation between Education and psychological correlates

	GHQ (>5)		Depression		Anxiety		TOTAL
Education	N	%	N	%	N	%	N
No formal education	8	88.9	4	44.4	6	66.7	9
Primary School	17	77.3	7	31.8	11	50.0	22
Middle School	25	92.6	13	48.1	12	44.4	27
High school	35	94.6	20	54.1	19	54.1	37
Under-Graduate	3	75	3	75	2	50.0	4
Professional	1	100	1	100	1	100	1
Total	89	89	48	48	51	51	100
Chi square	5.554		5.149		2.321		
P value	0.352		0.3		0.8		

Most of the study population who had psychological distress belonged to those who had at least high school education. (Table 26)

Among the 9 amputees those who had no formal education, 4 (44.4%) had depression.7 (31.8%) of those with primary school education, 13(48.1%) of middle school educated, 20 (54.1%) of high school educated, 3 (75%) of the undergraduate degree holders and 1 (100%) of the professional degree holder were depressed. 20 patients (41.7%) out of the 48 amputees who were depressed had high school education. (Figure 6)

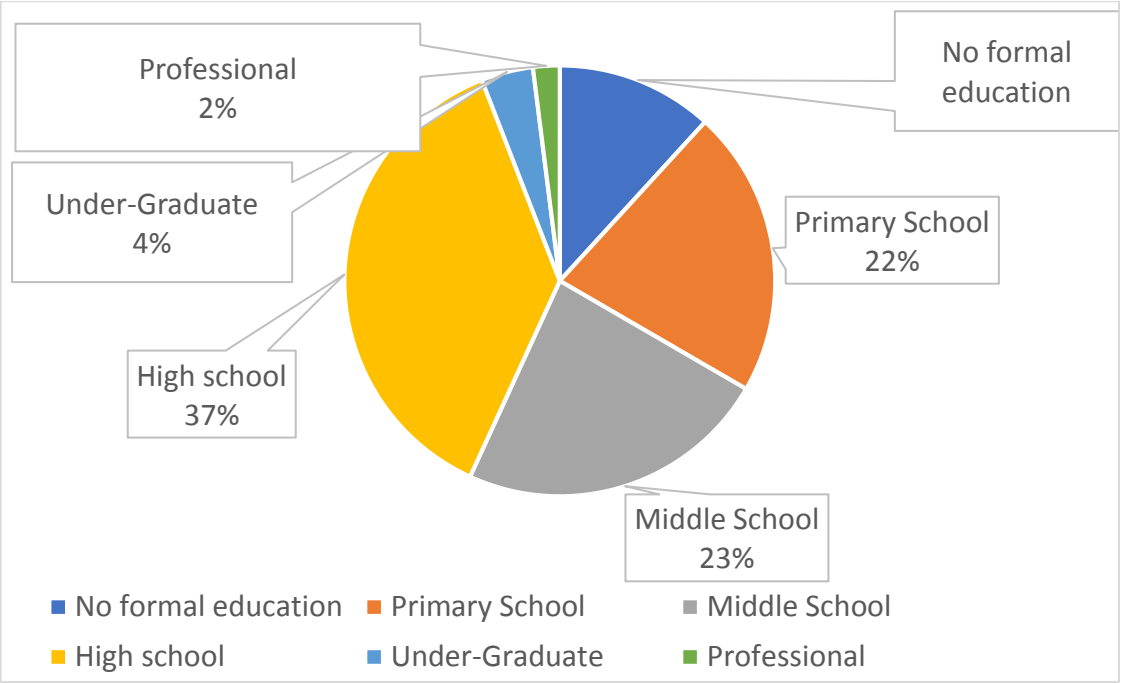
Figure 6: Depression among different levels of education



Most of those who were anxious were high school educated (37%).

Among the 9 amputees those who had no formal education, 6 (66.7%) had anxiety.11(50%) of those with primary school education, 12 (44.4%) of middle school educated, 19(54.1%) of high school educated, 2 (50%) of the undergraduate degree holders and 1 (100%) of the professional degree holder were anxious.(Table 26) (Figure7)

Figure 7: Anxiety among different levels of education



Body image

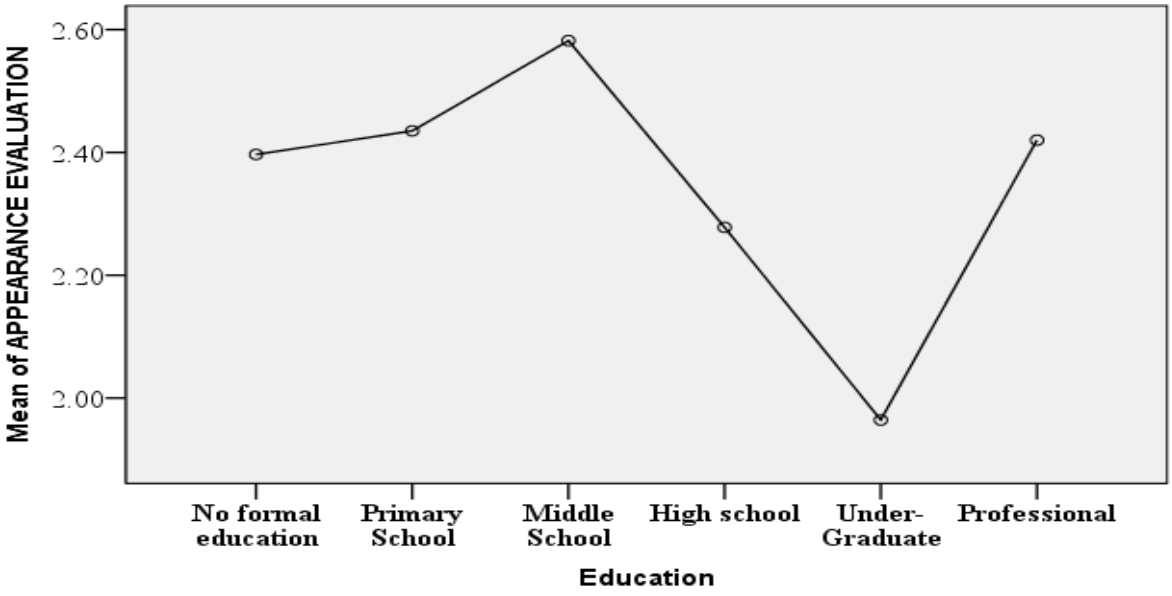
Appearance evaluation subscale of MBSRQ was found to have significant differences between educational groups on ANOVA. (p=0.01). There was no statistical difference in Appearance orientation and Body areas satisfaction. (Figure 8) (Table27)

Table 27: Comparison of means of MBSRQ subscales among educational status

ANOVA	F Value	P Value
Appearance evaluation	3.125	.012*
Appearance orientation	2.064	.077
Body areas satisfaction	1.868	.107

*P<0.05

Figure 8: Education and appearance evaluation subscale



MARITAL STATUS

Most of the study population were married (84%). Out of those 84 patients, 73 patients and all those who were either single or divorced or widowed had psychological distress on GHQ -28. (Table 28)

Among the 11 patients who were single, 6 (54.4%) had depression and 9 (81.8%) had anxiety. Among the 84 patients who were married 40 (47.6%) had depression and 40 (47.6%) had anxiety. Of the 3 patients who were divorced or widowed 2(40%) had depression and 2(40%) had anxiety.

Table 28: Marital status and psychological correlates

Marital status	GHQ (>5)		DEPRESSION		ANXIETY		Total
	N	%	N	%	N	%	N
Single	11	88.9	6	54.5	9	81.80	11
Married	73	77.3	40	47.6	40	47.60	84
Divorced/Widowed	5	92.6	2	40	2	40	5
TOTAL	89	89	48	48	48	48	100
CHI SQUARE VALUE	2.354		0.322		4.807		
P VALUE	0.308		0.851		0.09		

WORK

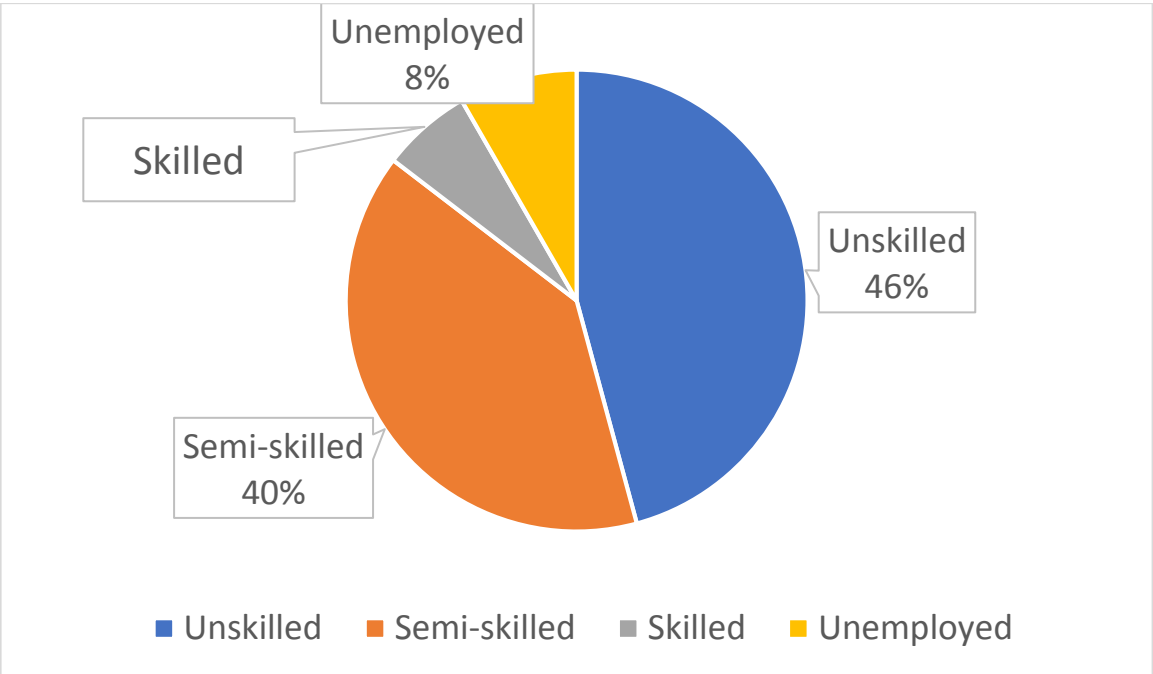
Among the study population, 10 patients (10%) were unemployed, 50 patients (50%) of the patients were unskilled, 37 patients (37%) of patients were semi-skilled, and 3 patients (3%) were skilled workers. All the skilled workers (100%), unemployed workers (100%),44 of 50 (88%) the unskilled workers 32(86.5%) of the 37 semi-skilled workers had psychological distress. (Table 29)

Table 29: Work and psychological correlates

Work	GHQ (>5)		Depression		Anxiety		Total
	N	%	N	%	N	%	
Unskilled	44	88	22	44	24	48	50
Semi-skilled	32	86.5	19	51.4	17	45.9	37
Skilled	3	100.00	3	100	2	66.7	3
Unemployed	10	100.00	4	40	8	80	10
Total	89	89	48	48	51	51	100
Chi square	1.897		3.99		4.218		
P value	0.59		0.26		0.23		

Depression was seen among all the 3(100%) skilled workers. 22 (44%) of the 50 Unskilled workers were depressed. 19 patients of the 37 Semi skilled workers were depressed. 4 (40%) of the 10 unemployed patients as well were depressed. The majority of the depressed patients were those who did unskilled work (46%). (Figure 9)

Figure 9 Depression among various work groups

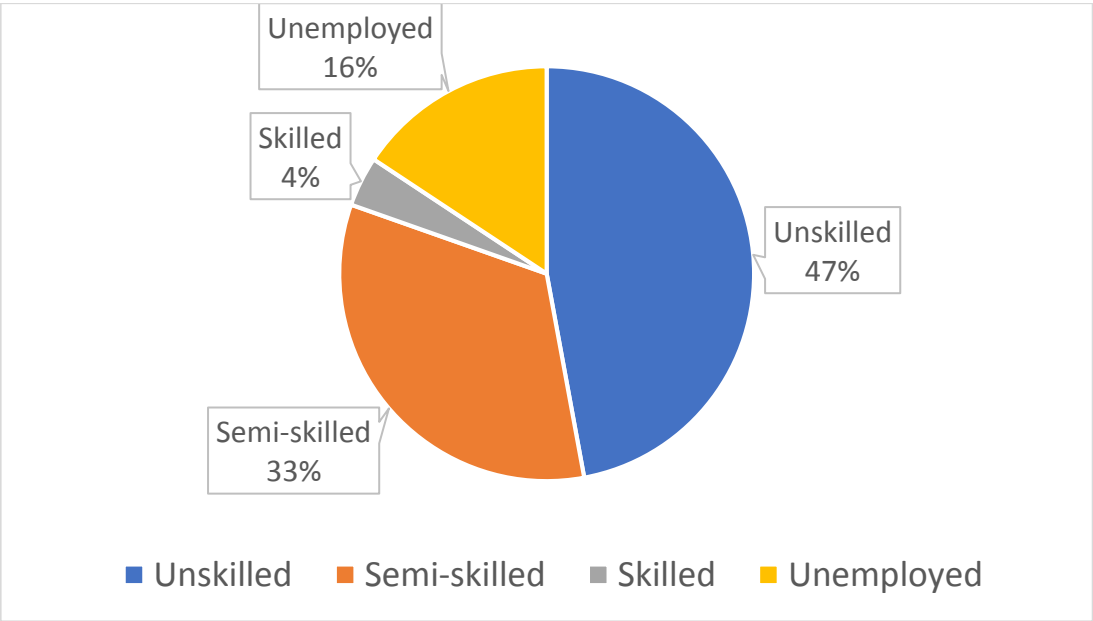


Anxiety

Anxiety was seen among 2 (66.7%) of 3 skilled workers. 24 (48%) of the 50 Unskilled workers were anxious. 17 patients (45.9%) of the 37 Semi skilled workers were Anxious. 8 (80%) of the 10 unemployed patients as well were anxious.

The majority of the anxious patients were those who did unskilled work (47%). (Figure 10)

Figure 10: Anxiety among various work groups



INCOME

In this study population, most of them (90%) had an income between Rs.5000 to Rs. 10,000, followed by 9% having an income of less than Rs.5000 and 1% of them having income of more than Rs. 10,000.

Among the population with income less than Rs. 5000, 88.8% had psychological distress, 55.6% had depression and 44.4% had anxiety.

Among the population with income between Rs.5000-Rs10,000, 88.9% had psychological distress, 46.7% had depression and 51.1% had anxiety. (Table 30)

Table 30: Income groups and psychological correlates

	GHQ (>5)		Depression		Anxiety		TOTAL
INCOME	N	%	N	%	N	%	N
Less than Rs. 5000	8	88.9	5	55.6	4	44.4	9
Rs. 5000 to Rs. 10000	80	88.9	42	46.7	46	51.1	90
More than Rs. 10000	1	100	1	100	1	100	1
Total	89	89	48	48	51	51	100
Chi square	0.125		1.353		1.116		
P value	0.939		0.508		0.572		

Most of the depressed patients (88%) and most of the patients with anxiety (90.2%) were composed of those with earnings between Rs5000- Rs 10,000. (Figure 11) (Figure 12)

Figure 11: Depression among various income groups

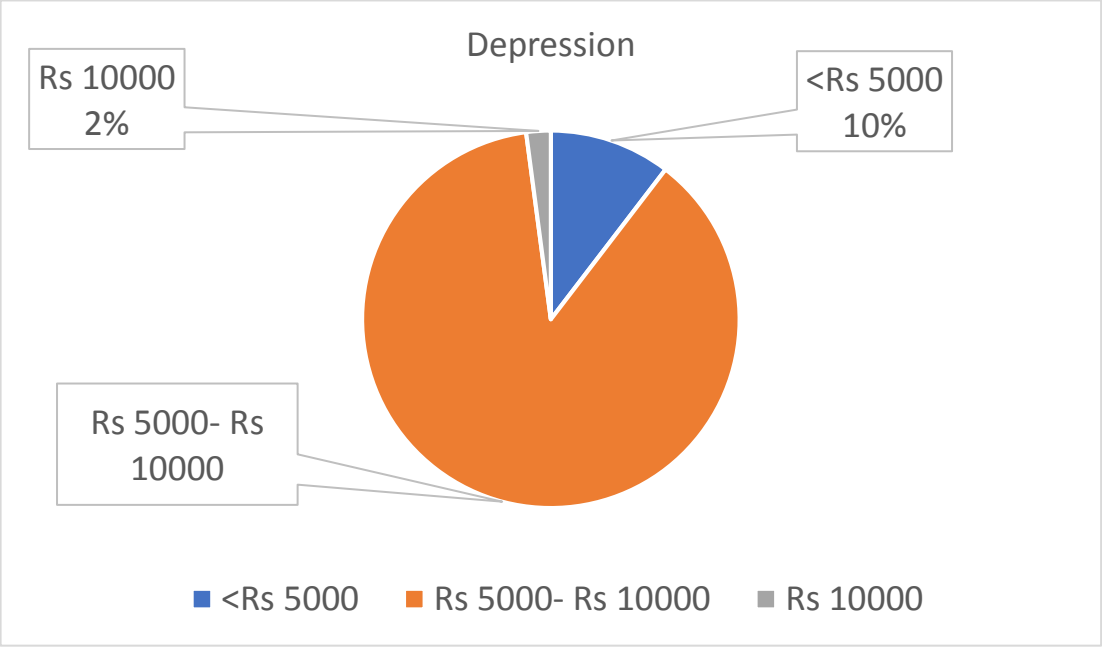
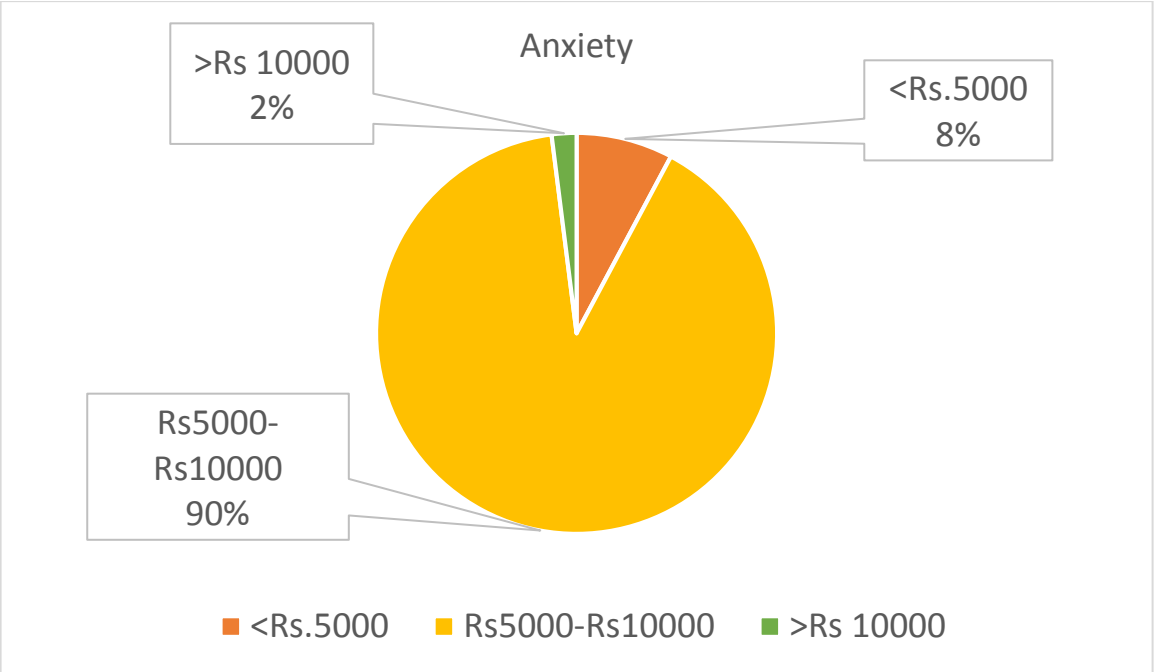


Figure 12: Anxiety among various income groups



FACTORS RELATED TO AMPUTATION

UNILATERAL VS BILATERAL

Table 31: Type of amputation and psychological correlates

UNILATERAL VS BILATERAL	GHQ		ANXIETY		DEPRESSION		TOTAL
	>5		HAM-A> 13		HAM-D>8		N
	N	%	N	%	N	%	
Unilateral	81	88	46	50	44	47.8	92
Bilateral	8	100	5	62.5	4	50	8
TOTAL(N=100)	89	89	51	51	48	48	100
CHI-SQUARE	1.07		0.014		0.46		
P VALUE	0.3		0.906		0.49		

92 patients had unilateral amputation and 8 patients had bilateral amputation. 88% of unilateral amputees had psychological distress and 100% of bilateral amputees had psychological distress.47.8% of unilateral amputees had depression and 50% of bilateral amputees had depression.50% of unilateral amputees had anxiety whereas 62.5% of bilateral amputees had anxiety but this was not statistically significant. (Table 31)

Unilateral Amputees had a mean score of 2.39 ± 0.4 for appearance evaluation compared to a slightly lower score of 2.37 ± 0.3. Unilateral Amputees had a mean score of 2.74 ± 0.4 for appearance orientation compared to a slightly lower score of 2.57 ± 0.5. Unilateral Amputees had a mean score of 2.65 ± 0.3 for body areas satisfaction compared to a slightly lower score of 2.63 ± 0.18. This difference was not statistically significant. (Table 32)

Table 32: Type of amputation and MBSRQ

UNILATERAL VS BILATERAL	Appearance evaluation		Appearance orientation		Body areas satisfaction	
	Mean	SD	Mean	SD	Mean	SD
Unilateral(N=92)	2.40	.40	2.75	.46	2.66	.31
Bilateral (N=8)	2.36	.30	2.57	.50	2.64	.19
Total	2.39	.40	2.73	.47	2.66	.30

LEVEL OF AMPUTATION

The most common lower limb amputation was below knee amputation.58 of the 92 unilateral amputees had below knee amputation. Among them, 87.9% (51) had psychological distress, 51.7% (30) had anxiety and 48.3% (28) had depression.

Among upper limb amputations, below elbow amputations were most common. Among the 6 patients who had below elbow amputation, 100% (6) of them had psychological distress, 16.7% (1) had anxiety and 33% (2) had depression. Of the 4 patients who had above elbow amputation, all experienced psychological distress and anxiety and depression was seen among 75% of them. (Table 33)

Table 33: Level of amputation and psychological correlates

	GHQ		ANXIETY		DEPRESSION		TOTAL
TYPE AND LEVEL OF AMPUTATION	>5		HAM-A> 13		HAM-D>8		N
	N	%	N	%	N	%	
BILATERAL	8	100	5	62.5	4	50	8
UNILATERAL-BELOW KNEE	51	87.9	30	51.7	28	48.3	58
UNILATERAL-ABOVE KNEE	19	82.6	10	43.5	11	47.8	23
UNILATERAL-BELOW ELBOW	6	100	1	16.7	2	33	6
UNILATERAL-ABOVE ELBOW	4	100	4	100	3	75	4
UNILATERAL-AT ANKLE	1	100	1	100	0	0	1
TOTAL	89	89	51	51	48	48	100
CHI-SQUARE	3.376		8.59		2.62		
P VALUE	0.64		0.12		0.75		

Table 34: Body image subscale difference between upper limb and lower limb amputation

Independent Samples Test	t	P Value
Appearance evaluation	-1.273	0.206
Appearance orientation	-1.997	0.049*
Body areas satisfaction	-1.123	0.264

*p<0.05,** P<0.01

CAUSE OF AMPUTATION

Table 35: Cause of amputation and psychological correlates

CAUSE OF AMPUTATION	GHQ		ANXIETY		DEPRESSION		TOTAL
	>5		HAM-A> 13		HAM-D>8		N
	N	%	N	%	N	%	
Traumatic	65	91.5	37	52.1	37	52.1	71
Diabetes mellitus	19	79.2	10	41.7	9	37.5	24
Peripheral vascular disease	3	82.6	2	66.7	1	33.3	3
Necrotizing fasciitis	1	100	1	100	0	0	1
Varicose veins	1	100	1	100	1	100	1
	89	89	51	51	48	48	100
CHI-SQUARE	3.46		3.8		3.08		
P VALUE	0.48		0.43		0.5		

Among the patients with amputation from traumatic causes, 91.5% had significant psychological distress,52.1% had anxiety and depression. Among those who had amputation following complications due to diabetes mellitus, 79.2% had significant psychological distress, 41.7% had anxiety and 37.5% had depression. Amputation due to peripheral vascular disease resulted in psychological distress in 82.6%, anxiety in 66.7% and depression in 33.3%. (Table 35)

PRESENCE OF COMORBID MEDICAL ILLNESS

Table 36: Comorbid Medical Illness and Psychological Correlates

COMORBID MEDICAL ILLNESS	GHQ >5		ANXIETY HAM-A> 13		DEPRESSION HAM-D>8		TOTAL N
	N	%	N	%	N	%	
NIL	67	93.1	38	52.8	38	52.8	72
PRESENT	22	78.6	13	46.4	10	37.5	28
TOTAL(N=100)	89	89.	51	51	48	48	100
CHI SQUARE VALUE	4.32		0.32		2.32		
P VALUE	0.038*		0.56		0.125		

*p<0.05, ** P<0.01

Those amputees with no comorbid medical illness had significantly more psychological distress (93.1%) when compared to those with comorbid medical illness (78.6%) with P value = 0.03. There was no statistical difference in presence of anxiety or depression among the two groups. (Table 36)

Correlation of Sociodemographic details with General health questionnaire

Table 37: Correlation of Sociodemographic details with General health questionnaire

		GHQ-28 TOTAL SCORE	GHQ-SOMATIC	GHQ-ANXIETY	GHQ-DEPRESSION	GHQ-SOCIAL DYSFUNCTION
Sl.no	Sociodemographic domain	P value (anova/student t test)	P value (anova /student t test)	Pvalue (anova/student t test)	P-value (anova /student t test)	P value (anova /student t test)
1	Age	0.1	0.2	0.03*	0.905	0.15
2	Gender	0.6	0.3	0.7	0.48	0.46
3	Education	0.01*	0.11	0.19	0.14	0.25
4	Marital status	0.01*	0.002**	0.01*	0.09	0.88
5	Work	0.03*	0.12	0.013*	0.02*	0.87
6	Income	0.003**	0.013*	0.056	0.02*	0.18
7	Sole earning member	0.6	0.7	0.15	0.17	0.23

*p<0.05,** P<0.01

GHQ-28 total scores were significantly different among various education status, marital status, work groups and income groups. GHQ-28 scores for somatic subscales were significantly different among various, Marital status and income groups. GHQ-28 scores for anxiety subscales were significantly different among various age groups, marital status and work groups. Scores for depression subscales of GHQ-28 were significantly different among work and income

groups. Social dysfunction scores did not vary significantly depending on sociodemographic details. (Table 37)

Correlation of Sociodemographic details with Hamilton rating scare for anxiety and Hamilton rating scale for depression

Table 38 **:** Correlation of Sociodemographic details with HAM-A and HAM-D

		HAM-A	HAM-D
Sl.no	Sociodemographic domain	P value (anova /student t test)	P value (anova /student t test)
1	Age	0.14	0.96
2	Gender	0.25	0.22
3	Education	0.70	0.18
4	Marital status	0.1	0.69
5	Work	0.07	0.05
6	Income	0.42	0.016*
7	Sole earning member	0.1	0.7

*p<0.05,** P<0.01

Anxiety scores did not vary significantly depending on sociodemographic details. On the other hand, depression scores varied significantly among the income groups. Other sociodemographic details had no significance. (Table 38)

Sociodemographic details and Multidimensional body-self relations questionnaire

Table 39: Correlation of Sociodemographic details with MBSRQ

		Appearance evaluation	Appearance orientation	Body areas satisfaction
Sl.no	Sociodemographic domain	P value (anova /student t test)	P value (anova /student t test)	P value (anova /student t test)
1	Age	0.035*	0.00**	0.57
2	Gender	0.04*	0.23	0.19
3	Education	0.012*	0.07	0.10
4	Marital status	0.13	0.002**	0.169
5	Work	0.46	0.11	0.39
6	Income	0.92	0.75	0.012*
7	Sole earning member	0.001**	0.7	0.1

*p<0.05,** P<0.01

Age, gender, education and if they were sole earning member of family was significantly associated with appearance evaluation subscale.

Age and marital status had a significant association with appearance orientation subscale and income had a significant association with body areas satisfaction subscale. (Table 39)

GHQ DOMAINS WITH MBSRQ

Table 40: GHQ DOMAINS WITH MBSRQ SUBSCALES

MBSRQ			GHQ - SOMATIC		GHQ -DEPRESSION		GHQ - ANXIETY		GHQ -SOCIAL DYSFUNCTION	
	Mean	S.D.	PEARSON CORRELATION	P value	PEARSON CORRELATION	P value	PEARSON CORRELATION	P value	PEARSON CORRELATION	P value
AE	2.39	0.39	0.062	0.54	-0.046	0.648	0.107	0.29	-0.136	0.17
AO	2.73	0.46	0.086	0.39	-0.065	0.522	0.018	0.86	-0.046	0.64
BAS	2.65	0.29	.249*	0.01	0.044	0.663	0.061	0.54	-0.183	0.06

*p<0.05,** P<0.01

Table 41: GHQ TOTAL WITH MBSRQ SUBSCALES

MBSRQ			GHQ -28 TOTAL	
	MEAN	S.D.	PEARSON CORRELATION	P VALUE
AE	2.39	0.39	-0.003	0.974
AO	2.73	0.46	-0.009	0.933
BAS	2.65	0.29	0.042	0.676

Body areas satisfaction subscale of MBSRQ had significant correlation with GHQ- somatic subscale score with p value of 0.01. (Table 40)

HAM -A VS HAM- D

Table 42 : Correlation between HAM-A and HAM-D

	MEAN	S.D.	PEARSON CORRELATION	P VALUE
HAM-A	12.14	5.19	0.649	0**
HAM-D	9.85	5.89		

*p<0.05, ** P<0.01

No Correlation was found between anxiety scale with any of the body image subscales or depression scale with any of body image subscales

DISCUSSION

DISCUSSION

Most of them belonged to 30-39 years age group from urban areas (81%) with most of them having high school level of education. Majority of them were working as unskilled workers. GHQ-28 mean score was 9.81 with 11 patients scoring less than the cut off score. HAM-D mean score was 9.85 (S.D.. 5.85), HAM-A mean score was 12.14 (S.D. 5.19). In Multidimensional Body-self relations questionnaire, Appearance orientation subscale mean score was 2.39 (S.D. 0.39), in appearance orientation mean score was 2.73 (S.D. 0.46) and in Body areas satisfaction mean score was 2.65 (S.D. 0.29).

48% had depression and 51% had anxiety in this population. Unlike many studies (Behel et al., 2002; Bhutani, 2016; Hawamdeh et al., 2008; Rybarczyk et al., 1995; Shukla et al., 1982; Wen et al., 2018), we found that a few sociodemographic factors had a significant impact of psychological reactions.

There was significant difference among the age groups in GHQ- anxiety sub scale and a negative correlation with Anxiety (HAM-A) and depression (HAM-D) although not statistically significant. Older age groups had lesser depression and anxiety as compared to younger patients. This might be as older adults have lesser expectation from themselves and so less likely to be upset. Other studies have similar results (K. Fisher and Hanspal, 1998) (Mosaku et al, 2009) (Bhutani et al)

Out study found that as age increases, appearance orientation was lesser among the amputees. Our study used a multidimensional construct. Other studies which used a single dimensional construct did not find age to be significantly correlated with body image

Many studies support our findings that gender did not affect the psychological response in the form of depression and anxiety. (Behel et al., 2002; Williamson et al., 1994; Shukla et al., 1982; Rybarczyk et al., 1995; Srivastava et al., 2010)

Gender was not found to have any significant correlation with body image unlike another study done using the same scale (MBSRQ) to assess body image which found that females fared significantly worse than males. This is probably as most of the females in our study were married. (Holzer et al 2014)

In accordance with many previous studies education was not found to be significantly associated with depression or anxiety. (Behel et al., 2002; Bhutani, 2016; Hawamdeh et al., 2008; Rybarczyk et al., 1995; Shukla et al., 1982; Wen et al., 2018)

Unlike the handful of studies that assessed income and psychiatric morbidity and found no significant association, (Shukla et al., 1982) (Behel et al., 2002) our study found that income was found to be significantly related to social dysfunction subscale of GHQ-28. This was supported by another study which

showed that lower income meant more activity restriction. (Williamson et al., 1994)

Those with traumatic amputation had significantly more anxiety than those who had amputation due to other causes. (p value=0.006) Due to being convinced of the necessity of amputation in case of those who had diseases that led to amputation probably had lesser anxiety.

50% of unilateral amputees had anxiety whereas 62.5% of bilateral amputees had anxiety and this was not statistically significant

Few studies found that below knee amputation had more psychological problems than above knee amputation, (Hawamdeh et al., 2008) but in our study level of amputation did not have significant association with depression and anxiety as supported by few other studies. (Behel et al., 2002; Horgan and MacLachlan, 2004; Shukla et al., 1982)

51% of our population had anxiety and did not have any significant association with sociodemographic factors. Similarly, when assessed immediately post op. high rates of anxiety (64.3%) were found in a Nigerian study which had a similar sociodemographic distribution as ours. (Mosaku et al., 2009) This was also supported by an older Indian study which showed 53% anxiety in the immediate post op period.(Shukla et al., 1982). Most other studies had contradictory findings

when assessed in this period, were around 24%- 30%(Singh et al., 2007) (Mall et al., 1997) and few others found no difference from any surgical post op population.(Fisher and Hanspal, 1998; Kashani et al., 1983)

Contradictory to a few studies, (MALL et al., n.d.)(Kashani et al., 1983) (Hill et al., 1995) (Schubert et al., 1992),high rate i.e. 48% had depression in our study population and it was found to be significantly associated with income. Similar findings were reported by few studies done in the developing countries.(Mosaku et al., 2009; Shukla et al., 1982)

Mean body image scores in appearance evaluation subscale as 2.39±0.39, appearance orientation had mean score of 2.73 ±0.46 and mean score of body areas satisfaction subscale as 2.65±0.29 which was much lower compared to another study which showed higher scores in all the subscales i.e. Appearance Evaluation mean score of 3.13±0.75, Appearance Orientation mean score of 3.16±0.76 and Body-areas satisfaction mean score of 3.38±0.89. (Holzer et al., 2014) This difference might be due to the fact that our study was conducted in the immediate post-operative period when the patients had had only a little time to adjust to their new body image compared to the other study which was conducted in 6 months following amputation.

Upper limb amputation scored significantly lesser than lower limb amputation on appearance orientation subscale of multidimensional body self-relations questionnaire.

Body image scale wasn't found to be significantly correlated to anxiety or depression. This was contradictory to studies which showed significant correlation of body image with anxiety (K Fisher and Hanspal, 1998) (Breakey, 1997; Desteli et al., 2014; K. Fisher and Hanspal, 1998)

Limitations

It's a cross-sectional study.

Sample taken was predominantly belonged to lower socioeconomic status as it was taken at a tertiary care center and may not be representative of general population.

Other injuries among the traumatic amputees were not taken into consideration.

CONCLUSION

Conclusion

There is high levels of anxiety and depression found among amputees in concordance with previous studies conducted in the immediately post amputation period.

Appearance evaluation and Body areas satisfaction scores were higher among male and Appearance orientation scores were higher among females than males.

Body image scale wasn't found to be significantly correlated to anxiety or depression.

Future directions:

Follow up studies are needed in this area in Indian setting in general population.

The effect of intervention in the form of pharmacotherapy and psychotherapy during post-operative period should be studied as the patients have an average stay of a month after amputation.

Treating doctors need to be trained to identify psychological distress among amputees.

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ANNEXURES

PROFORMA
DEMOGRAPHIC FACTORS

Name :

Age (in years) :

Sex : (1) Male □ (2) Female □

Education : (1) Illiterate □
(2) Primary-school □
(3) Middle-school □
(4) High-school □
(5) Under-graduate □
(6) Post-graduate □
(7) Professional.

Socio-Economic status : (1) Lower SES □ (2) Middle SES □ (3) Upper SES □

Income : (1) Rs: less than 5000 □
(2) Rs: 5000-10000 □
(3) Rs: more than 10000 □

Marital status : (1) Unmarried □
(2) Married □
(3) Married-separated □
(4) Widow □

Occupation : (1) Un-employed □
(2) Un skilled worker □
(3) Semi-skilled worker □
(4) Skilled worker □
(5) Farmer, clerical, self employed □
(6) Semi-profession □
(7) Profession □

Residence : (1) Urban □
(2) Rural □

Disease factors
Cause for amputation
Type and Level of amputation
Planned or emergency
Any Post op complications
Co morbid medical illness

GENERAL HEALTH QUESTIONNAIRE-28

Answer as Yes or No

HAVE YOU RECENTLY:

1. Been feeling perfectly well and in good health?

2. Been feeling in need of a good tonic?

3. Been feeling run down and out of sorts?

4. Felt that you are ill?

5. Been getting any pains in your head?

6. Been getting a feeling of tightness or pressure in your head?

7. Been having hot or cold spells? 8. Lost much sleep over worry?

9. Had difficulty in staying asleep once you are off?

10. Felt constantly under strain?

11. Been getting edgy and bad-tempered?

12. Been getting scared or panicky for no good reason?

13. Found everything getting on top of you?

14. Been feeling nervous and strung-up all the time?

15. Been managing to keep yourself busy and occupied?

16. Been taking longer over the things you do?

17. Felt on the whole you were doing things well?

18. Been satisfied with the way you've carried out your task?

19. Felt that you are playing a useful part in things?

20. Felt capable of making decisions about things?

21. Been able to enjoy your normal day-to-day activities?

22. Been thinking of yourself as a worthless person?

23. Felt that life is entirely hopeless?

24. Felt that life isn't worth living?

25. Thought of the possibility that you might make away with yourself?

26. Found at times you couldn't do anything because your nerves were too bad?

27. Found yourself wishing you were dead and away from it all?

28. Found that the idea of taking your own life kept coming into your mind?

Hamilton Anxiety Rating Scale (HAM-A)

Below is a list of phrases that describe certain feeling that people have. Rate the patients by finding the answer which best describes the extent to which he/she has these conditions. Select one of the five responses for each of the fourteen questions.

0 = Not present, 1 = Mild, 2 = Moderate, 3 = Severe, 4 = Very severe.

1 Anxious mood [0] [1] [2] [3] [4]

Worries, anticipation of the worst, fearful anticipation, irritability.

2 Tension [0] [1] [2] [3] [4]

Feelings of tension, fatigability, startle response, moved to tears easily, trembling, feelings of restlessness, inability to relax.

3 Fears [0] [1] [2] [3] [4]

Of dark, of strangers, of being left alone, of animals, of traffic, of crowds.

4 Insomnia [0] [1] [2] [3] [4]

Difficulty in falling asleep, broken sleep, unsatisfying sleep and fatigue on waking, dreams, nightmares, night terrors.

5 Intellectual [0] [1] [2] [3] [4]

Difficulty in concentration, poor memory.

6 Depressed mood [0] [1] [2] [3] [4]

Loss of interest, lack of pleasure in hobbies, depression, early waking, diurnal swing.

7 Somatic (muscular) [0] [1] [2] [3] [4]

Pains and aches, twitching, stiffness, myoclonic jerks, grinding of teeth, unsteady voice, increased muscular tone.

8 Somatic (sensory) [0] [1] [2] [3] [4]

Tinnitus, blurring of vision, hot and cold flushes, feelings of weakness, pricking sensation.

9 Cardiovascular symptoms [0] [1] [2] [3] [4]

Tachycardia, palpitations, pain in chest, throbbing of vessels, fainting feelings, missing beat.

10 Respiratory symptoms [0] [1] [2] [3] [4]

Pressure or constriction in chest, choking feelings, sighing, dyspnea.

11 Gastrointestinal symptoms [0] [1] [2] [3] [4]

Difficulty in swallowing, wind abdominal pain, burning sensations, abdominal fullness, nausea, vomiting, borborygmi, looseness of bowels, loss of weight, constipation.

12 Genitourinary symptoms [0] [1] [2] [3] [4]

Frequency of micturition, urgency of micturition, amenorrhea, menorrhagia, development of frigidity, premature ejaculation, loss of libido, impotence.

13 Autonomic symptoms [0] [1] [2] [3] [4]

Dry mouth, flushing, pallor, tendency to sweat, giddiness, tension headache, raising of hair.

14 Behavior at interview [0] [1] [2] [3] [4]

Fidgeting, restlessness or pacing, tremor of hands, furrowed brow, strained face, sighing or rapid respiration, facial pallor, swallowing, etc.

Patient Name:_____ **Date**:_____

Hamilton Rating Scale for Depression (17-items)

Instructions: For each item select the "cue" which best characterizes the patient during the past week.

1. **Depressed Mood**
   (sadness, hopeless, helpless, worthless)
   0 Absent
   1 These feeling states indicated only on questioning
   2 These feeling states spontaneously reported verbally
   3 Communicates feeling states nonverbally, i.e., through facial expression, posture, voice and tendency to weep
   4 Patient reports VIRTUALLY ONLY these feeling states in his spontaneous verbal and nonverbal communication

2. **Feelings of Guilt**
   0 Absent
   1 Self-reproach, feels he has let people down
   2 Ideas of guilt or rumination over past errors or sinful deeds
   3 Present illness is a punishment. Delusions of guilt
   4 Hears accusatory or denunciatory voices and/or experiences threatening visual hallucinations

3. **Suicide**
   0 Absent
   1 Feels life is not worth living
   2 Wishes he were dead or any thoughts of possible death to self
   3 Suicide ideas or gesture
   4 Attempts at suicide (any serious attempt rates 4)

4. **Insomnia - Early**
   0 No difficulty falling asleep
   1 Complains of occasional difficulty falling asleep i.e., more than ½ hour
   2 Complains of nightly difficulty falling asleep

5. **Insomnia - Middle**
   0 No difficulty
   1 Patient complains of being restless and disturbed during the night
   2 Waking during the night – any getting out of bed rates 2 (except for purposes of voiding)

6. **Insomnia - Late**
   0 No difficulty
   1 Waking in early hours of the morning but goes back to sleep
   2 Unable to fall asleep again if gets out of bed

7. **Work and Activities**
   0 No difficulty
   1 Thoughts and feelings of incapacity, fatigue or weakness related to activities; work or hobbies
   2 Loss of interest in activity; hobbies or work – either directly reported by patient, or indirect in listlessness, indecision and vacillation (feels he has to push self to work or activities)
   3 Decrease in actual time spent in activities or decrease in productivity. In hospital, rate 3 if patient does not spend at least three hours a day in activities (hospital job or hobbies) exclusive of ward chores.
   4 Stopped working because of present illness. In hospital, rate 4 if patient engages in no activities except ward chores, or if patient fails to perform ward chores unassisted.

8. **Retardation**
   (slowness of thought and speech; impaired ability to concentrate; decreased motor activity)
   0 Normal speech and thought
   1 Slight retardation at interview
   2 Obvious retardation at interview
   3 Interview difficult
   4 Complete stupor

9. **Agitation**
   0 None
   1 "Playing with" hand, hair, etc.
   2 Hand-wringing, nail-biting, biting of lips

10. **Anxiety - Psychic**
    0 No difficulty
    1 Subjective tension and irritability
    2 Worrying about minor matters
    3 Apprehensive attitude apparent in face or speech
    4 Fears expressed without questioning

11. **Anxiety - Somatic**
    0 Absent
    1 Mild
    2 Moderate
    3 Severe
    4 Incapacitating
    Physiological concomitants of anxiety such as Gastrointestinal - dry mouth, wind, indigestion, diarrhea, cramps, belching
    Cardiovascular – palpitations, headaches
    Respiratory - hyperventilation, sighing
    Urinary frequency
    Sweating

12. **Somatic Symptoms - Gastrointestinal**
    0 None
    1 Loss of appetite but eating without staff encouragement. Heavy feelings in abdomen.
    2 Difficulty eating without staff urging. Requests or requires laxatives or medications for bowels or medication for G.I. symptoms.

13. **Somatic Symptoms - General**
    0 None
    1 Heaviness in limbs, back or head, backaches, headache, muscle aches, loss of energy and fatigability
    2 Any clear-cut symptom rates 2

14. **Genital Symptoms**
    0 Absent
    1 Mild
    2 Severe
    0 Not ascertained
    Symptoms such as: loss of libido, menstrual disturbances

15. **Hypochondriasis**
    0 Not present
    1 Self-absorption (bodily)
    2 Preoccupation with health
    3 Frequent complaints, requests for help, etc.
    4 Hypochondriacal delusions

16. **Loss of Weight**
    A. When Rating by History:
    0 No weight loss
    1 Probable weight loss associated with present illness
    2 Definite (according to patient) weight loss

    B. On Weekly Ratings by Ward Psychiatrist, When Actual Changes are Measured:
    0 Less than 1 lb. weight loss in week
    1 Greater than 1 lb. weight loss in week
    2 Greater than 2 lb. weight loss in week

17. **Insight**
    0 Acknowledges being depressed and ill
    1 Acknowledges illness but attributes cause to bad food, climate, overwork, virus, need for rest, etc.
    2 Denies being ill at all

Total Score:

MULTIDIMENSIONAL BODY-SELF RELATIONS QUESTIONNAIRE
MBSRQ-APPEARANCE SCALES (MBSRQ-AS)

Score the following items as 1-definitely disagree, 2-disagree,3-neither agree nor disagree, 4-agree or 5- definitely agree

Appearance Evaluation subscale (MBSRQ-AE)

1. My body is sexually appealing.
2. I like my looks just the way they are.
3. Most people would consider me good-looking.
4. I like the way I look without my clothes on.
5. I like the way my clothes fit me.
6. I dislike my physique.
7. I am physically unattractive.

Appearance Orientation Subscale (MBSRQ-AO)

1. Before going out in public, I always notice how I look.
2. I am careful to buy clothes that will make me look my best.
3. I check my appearance in a mirror whenever I can.
4. Before going out, I usually spend a lot of time getting ready.
5. It is important that I always look good.
6. I use very few grooming products.
7. I am self-conscious if my grooming isn't right.
8. I usually wear whatever is handy without caring how it looks.
9. I don't care what people think about my appearance.
10. I take special care with my hair grooming.
11. I never think about my appearance.
12. I am always trying to improve my physical appearance.

BODY AREAS SATISFACTION

Use this 1 to 5 scale to indicate how dissatisfied or satisfied you are with each of the following areas or aspects of your body:

1=Very Dissatisfied, 2=Mostly Dissatisfied, 3=Neither Satisfied nor dissatisfied, 4= Mostly satisfied, 5=Very Satisfied

1. _____. Face (facial features, complexion)
2. _____ . Hair (color, thickness, texture)
3. _____ . Lower torso (buttocks, hips, thighs, legs)
4. _____ . Mid torso (waist, stomach)
5. _____ . Upper torso (chest or breasts, shoulders, arms)
6. _____ . Muscle tone
7. _____ . Weight
8. _____ . Height
9. _____ . Overall appearance

KEY TO MASTER CHART

VARIABLE	LABEL	CODING
Age	AGE	None
Sex	SEX	None
Marital status	MARITAL STATUS	1. Single 2. Married 3. Divorced/Widowed
LIVING WITH	LIVING WITH	1. Parents 2. Alone 3. Spouse 4. Children 5. Joint Family
CHILDREN		1. No Children 2. One Child 3. 2 or more Children
Education	EDUCATION	1. No formal education 2. Primary School 3. Middle School 4. High School 5. Under-Graduate 6. Post-Graduate 7. Professional
SES	SOCIOECONOMIC STATUS	1. Lower 2. Middle 3. Upper
Work	WORK	1. Unskilled 2. Semi-skilled 3. Skilled 4. Unemployed
Religion	RELIGION	1. Hindu 2. Islam 3. Christianity
Residency	RESIDENTIAL AREA OF THE INDIVIDUAL	1. Rural 2. Urban

Income	INCOME	1. Less than Rs. 5000 2. Rs. 5000-10000 3. More than Rs. 10000
SOLE EARNING MEMBER	SOLE EARNING MEMBER	1. Yes 2. No
Type and level of amputation	TYPE AND LEVEL OF AMPUTATION	1. Below Knee 2. Above Knee 3. Below Elbow 4. Above Elbow 5. At the level of ankle
UL LL	LIMB AMPUTED	1. Upper Limb 2. Lower Limb
Unilateral or Bilateral	UNILATERAL VS BILATERAL	1. Unilateral 2. Bilateral
Type when bi	TYPE OF AMPUTATION	1. Above knee and below knee 2. Below knee and below knee 3. Above elbow and below elbow 4. Below elbow and below elbow
RIGHTLEFT	SIDE OF AMPUTATION	1. Right 2. Left 3. Both
CAUSE	CAUSE FOR AMPUTATION	1. Traumatic 2. Diabetes Mellitus 3. Peripheral vascular disease 4. Necrotizing fasciitis
Planned or emergency	PLANNED OR EMERGENCY	1. Emergency 2. Planned
Any post op complication	ANY POST OP COMPLICATION	1. Nil complication 2. Infection 3. Hemorrhage
Comorbid illness	COMORBID ILLNESS	1. Nil 2. Diabetes mellitus 3. Hypertension

		4. Diabetes mellitus and hypertension
GHQ Somatic	GHQ SOMATIC	None
GHQ anxiety	GHQ ANXIETY	None
GHQ social dysfunction	GHQ SOCIAL DYSFUNCTION	None
GHQ depression	GHQ DEPRESSION	None
GHQ- 28 total	GHQ- 28 TOTAL	None
HAM-D grouping	HAM D GROUPING	0. Nil 1. Mild 2. Moderate 3. Severe
HAM-D Score	HAM-D SCORE	None
HAM A Grouping	HAM A GROUPING	0. Nil 1. Mild 2. Moderate 3. Severe
HAM-A	HAM-A SCORE	None
MBSRQ AE	MBSRQ APPEARANCE EVALUATION	None
MBSRQ AO	MBSRQ APPEARANCE ORIENTATION	None
MBSRQ BA	MBSRQ BODY AREAS SATISFACTION	None
Age grp	AGE GROUP	1. 20-29 yrs 2. 30-39 yrs 3. 40-49 yrs 4. 50-59 yrs 5. 60-65 yrs

Depression	DEPRESSION	0. Absent 1. Present
Anxiety	ANXIETY	0. Absent 1. Present
GHQ	GHQ	0. Less than 5 1. More than 5
Cause of amputation	CAUSE OF AMPUTATION	1. Traumatic 2. Others

SL NO.	Age	Sex	Marital status	Living with	Children	Education	SES	Work	Religion	Residency	Income	Soleearningmember	Type and level of amputation	UL or LL	Unilateral or biteral	Type When Bilateral	Rightleft	Cause	Planned or emergency	Any post op complication	Comorbid illness	Ghq somatic	Ghq anxiety	Ghq social dysfunction	Ghq depression	Ghq-28 total	HAM-D group	HAM-D score	HAM-A group	HAM-A score	MBSRQ AE	MBSRQ AO	MBSRQ-BAS	Age Group	Depression	Anxiety	GHQ	Cause of amputation
1	25	1	1	1	1	7	2	3	1	2	3	1	1	2	1	0	2	1	1	1	1	5	6	5	6	22	3	25	2	18	2.42	3.08	3.11	1.00	1.00	1.00	1.00	1.00
2	52	1	2	3	3	2	1	1	3	2	2	1	2	2	1	0	1	2	2	2	2	4	3	5	5	17	3	23	1	15	3.00	2.50	3.60	4.00	1.00	1.00	1.00	2.00
3	55	2	2	3	3	1	1	4	1	2	2	2	5	2	1	0	1	1	1	1	4	2	3	3	0	8	0	7	2	19	2.57	3.58	2.66	4.00	0.00	1.00	1.00	1.00
4	21	1	1	5	1	3	1	1	1	2	1	2	1	2	1	0	1	1	1	1	1	4	4	3	1	12	1	9	1	16	2.00	3.58	3.44	1.00	1.00	1.00	1.00	1.00
5	28	1	1	1	1	4	1	2	1	2	2	2	1	2	1	0	1	1	1	3	1	3	4	4	0	11	0	6	2	18	2.29	2.00	2.78	1.00	0.00	1.00	1.00	1.00
6	36	1	2	3	1	3	2	2	1	2	2	1	3	1	1	0	1	1	1	1	1	4	2	2	4	12	2	17	0	6	3.14	2.00	3.11	2.00	1.00	0.00	1.00	1.00
7	33	1	2	3	2	3	1	2	1	2	2	1	1	2	1	0	2	1	1	1	1	4	2	3	2	11	0	5	0	9	3.14	3.00	3.11	2.00	0.00	0.00	1.00	1.00
8	31	2	2	3	3	3	1	2	3	2	2	2	1	2	1	0	1	1	1	1	1	1	2	3	1	7	2	14	1	14	1.43	3.17	2.67	2.00	1.00	1.00	1.00	1.00
9	29	1	2	3	2	4	1	2	1	2	2	2	0	2	2	1	3	1	1	1	1	2	2	4	1	9	1	12	0	11	2.29	1.92	2.67	1.00	1.00	0.00	1.00	1.00
10	35	1	2	3	3	2	1	1	1	2	2	1	2	2	1	0	2	1	1	3	1	1	2	3	2	8	0	6	1	14	2.86	1.42	2.78	2.00	0.00	1.00	1.00	1.00
11	26	1	2	3	2	4	1	2	1	2	2	2	1	2	1	0	2	1	1	1	1	4	3	3	0	10	0	7	0	7	3.00	2.00	2.78	1.00	0.00	0.00	1.00	1.00
12	38	1	2	3	3	3	1	1	1	2	2	1	1	2	1	0	1	1	1	1	1	2	4	2	2	10	2	18	1	16	2.71	1.92	2.44	2.00	1.00	1.00	1.00	1.00
13	52	1	2	3	3	2	1	1	2	2	2	1	0	2	2	4	3	5	1	2	1	2	5	5	5	17	3	25	2	24	2.86	2.25	2.33	4.00	1.00	1.00	1.00	2.00
14	35	1	2	5	3	3	1	2	1	2	2	2	1	2	1	0	1	1	1	1	1	3	3	4	2	12	1	11	1	14	1.86	2.58	3.00	2.00	1.00	1.00	1.00	1.00
15	45	1	2	3	3	4	1	1	3	2	2	2	1	2	1	0	1	1	1	1	1	2	4	3	3	12	2	20	1	17	3.00	2.83	2.89	3.00	1.00	1.00	1.00	1.00
16	41	1	2	3	3	2	1	2	1	2	2	2	4	1	1	0	1	1	1	1	1	3	2	4	1	10	0	7	1	14	2.29	2.33	2.33	3.00	0.00	1.00	1.00	1.00
17	42	1	2	3	3	3	1	1	1	1	1	2	2	2	1	0	2	1	1	1	1	5	2	5	0	12	0	4	0	10	3.00	2.92	3.11	3.00	0.00	0.00	1.00	1.00
18	33	1	2	3	2	4	1	2	1	2	2	2	1	2	1	0	2	1	1	1	1	2	3	4	1	10	2	14	1	15	2.71	2.75	3.00	2.00	1.00	1.00	1.00	1.00
19	31	1	2	5	3	4	1	2	1	1	1	2	1	2	1	0	1	1	1	1	1	1	1	3	0	5	1	9	0	11	2.00	2.67	3.11	2.00	1.00	0.00	1.00	1.00
20	53	2	3	2	3	2	1	4	1	2	2	2	1	2	1	0	2	2	2	1	2	1	1	2	1	5	0	7	0	11	2.29	2.75	2.44	4.00	0.00	0.00	1.00	2.00
21	60	2	2	4	3	1	1	1	1	2	2	2	1	2	1	0	1	2	2	1	2	2	2	3	2	9	0	4	1	14	2.00	2.58	2.56	5.00	0.00	1.00	1.00	2.00
22	34	1	2	3	3	3	1	2	1	2	2	1	1	2	1	0	2	1	1	2	1	1	3	5	4	13	3	22	2	20	2.57	3.00	2.89	2.00	1.00	1.00	1.00	1.00
23	35	1	2	3	3	3	1	2	1	2	2	1	1	2	1	0	1	1	1	1	1	1	3	2	0	6	0	6	0	12	3.29	2.92	3.00	2.00	0.00	0.00	1.00	1.00
24	37	1	2	5	3	3	1	2	1	2	2	2	1	2	1	0	1	2	1	1	2	2	2	4	1	9	2	16	1	15	3.14	2.67	2.56	2.00	1.00	1.00	1.00	2.00
25	55	1	2	5	3	3	1	1	1	2	1	1	2	2	1	0	1	1	1	2	4	1	1	1	1	4	0	3	0	2	2.57	1.67	2.89	4.00	0.00	0.00	0.00	1.00
26	35	1	2	3	3	4	1	1	1	2	2	1	1	2	1	0	2	2	2	1	2	2	3	3	4	12	2	14	1	17	3.00	2.75	2.67	2.00	1.00	1.00	1.00	2.00
27	31	1	2	3	3	4	1	1	1	2	2	1	1	2	1	0	1	1	1	1	1	2	4	4	5	15	3	20	2	18	2.29	2.67	2.89	2.00	1.00	1.00	1.00	1.00
28	57	1	1	4	3	4	1	4	1	2	2	2	1	2	1	0	1	2	1	1	2	2	2	2	4	10	0	5	1	15	2.86	2.83	2.78	4.00	0.00	1.00	1.00	2.00
29	34	1	2	3	3	2	1	2	2	2	2	2	2	2	1	0	2	1	1	1	1	3	3	2	4	12	1	10	1	14	2.71	2.92	2.56	2.00	1.00	1.00	1.00	1.00

30	33	1	2	3	2	2	1	1	1	2	2	1	1	2	1	0	1	1	1	1	1	1	2	2	2	7	0	5	0	12	3.00	2.83	2.67	2.00	0.00	0.00	1.00	1.00
31	37	1	2	3	3	3	1	1	1	2	1	1	1	2	1	0	1	2	2	1	2	2	1	3	4	10	0	4	0	10	3.14	2.42	2.89	2.00	0.00	0.00	1.00	2.00
32	58	1	2	3	3	1	1	1	1	2	2	1	2	2	1	0	2	2	2	1	2	2	0	4	2	8	0	2	0	2	3.43	3.25	3.44	4.00	0.00	0.00	1.00	2.00
33	62	1	2	3	3	2	1	1	1	2	1	2	1	2	1	0	1	3	2	1	3	2	2	2	2	8	0	7	0	5	2.57	1.58	2.89	5.00	0.00	0.00	1.00	2.00
34	38	1	2	3	3	4	1	1	3	2	2	2	1	2	1	0	1	1	1	1	1	3	3	5	2	13	2	15	1	14	2.29	3.17	3.00	2.00	1.00	1.00	1.00	1.00
35	32	1	2	3	3	4	2	1	1	2	2	1	2	2	1	0	1	1	1	1	1	1	1	2	0	4	0	3	0	4	2.71	3.08	3.00	2.00	0.00	0.00	0.00	1.00
36	24	1	2	3	1	5	1	2	1	2	2	2	2	2	1	0	1	1	1	1	1	1	1	1	1	4	0	4	0	3	2.00	3.75	3.33	1.00	0.00	0.00	0.00	1.00
37	45	1	2	3	3	4	1	2	1	2	2	1	0	2	2	2	3	1	1	1	1	2	2	4	3	11	1	9	1	15	2.14	3.08	2.89	3.00	1.00	1.00	1.00	1.00
38	59	2	2	5	3	2	1	1	1	2	2	1	1	2	1	0	1	2	2	1	2	1	0	2	0	3	0	6	0	2	2.14	3.00	2.89	4.00	0.00	0.00	0.00	2.00
39	44	1	2	3	3	4	1	2	1	2	2	1	4	1	1	0	2	1	1	1	1	3	2	4	2	11	1	10	1	14	1.86	2.50	2.56	3.00	1.00	1.00	1.00	1.00
40	32	1	2	3	2	4	1	1	1	2	2	2	4	1	1	0	1	1	1	1	1	2	3	5	2	12	2	18	2	18	2.00	2.58	2.78	2.00	1.00	1.00	1.00	1.00
41	26	1	1	1	1	4	1	2	1	2	2	2	1	2	1	0	1	1	1	1	1	2	6	4	3	15	2	16	2	18	1.86	3.42	2.78	1.00	1.00	1.00	1.00	1.00
42	35	2	3	1	1	4	1	1	1	2	2	2	1	2	1	0	2	1	1	2	1	2	2	5	2	11	2	18	0	12	2.00	2.58	2.33	2.00	1.00	0.00	1.00	1.00
43	33	1	2	3	1	4	1	4	1	2	2	2	0	2	2	2	3	4	1	1	1	3	5	4	5	17	0	6	2	18	2.29	2.92	2.56	2.00	0.00	1.00	1.00	2.00
44	53	1	2	5	2	4	1	1	1	2	2	1	1	2	1	0	1	2	2	1	2	1	1	3	0	5	0	5	0	3	3.00	3.00	3.00	4.00	0.00	0.00	1.00	2.00
45	34	1	2	5	3	4	1	2	1	2	2	2	1	2	1	0	2	1	1	1	1	2	2	4	0	8	0	5	0	11	2.43	2.75	2.56	2.00	0.00	0.00	1.00	1.00
46	27	1	2	3	1	5	1	2	1	2	2	2	1	2	1	0	2	1	1	1	1	3	3	5	1	12	1	12	1	14	1.86	3.00	2.33	1.00	1.00	1.00	1.00	1.00
47	42	1	2	3	3	4	1	2	1	2	2	1	1	2	1	0	1	1	1	1	1	4	2	4	1	11	1	8	0	12	1.86	2.50	2.56	3.00	1.00	0.00	1.00	1.00
48	35	1	2	3	3	4	1	1	1	2	2	1	3	1	1	0	1	1	1	1	1	3	7	5	4	19	3	21	3	25	2.14	2.33	2.33	2.00	1.00	1.00	1.00	1.00
49	36	2	2	5	3	4	1	1	1	2	2	2	1	2	1	0	1	1	1	1	1	1	3	4	0	8	0	7	0	11	2.14	2.50	2.22	2.00	0.00	0.00	1.00	1.00
50	28	1	2	3	2	4	1	2	1	2	2	2	1	2	1	0	1	1	1	1	1	1	3	4	0	8	1	11	1	14	2.14	3.08	2.22	1.00	1.00	1.00	1.00	1.00
51	32	1	2	5	3	3	1	1	1	2	2	1	1	2	1	0	2	1	1	1	1	2	4	3	2	11	3	20	2	18	2.43	3.00	2.67	2.00	1.00	1.00	1.00	1.00
52	54	1	3	4	3	4	1	1	1	2	2	1	3	1	1	0	1	2	2	1	2	1	2	2	1	6	0	7	0	3	2.29	2.33	2.33	4.00	0.00	0.00	1.00	2.00
53	34	1	2	3	3	3	1	1	2	1	2	1	1	2	1	0	2	1	1	3	1	2	1	2	3	8	0	2	0	2	2.57	3.00	2.67	2.00	0.00	0.00	1.00	1.00
54	44	2	2	3	3	4	1	2	1	2	2	2	4	1	1	0	1	1	1	1	1	1	4	4	4	13	1	13	1	17	2.00	2.33	2.33	3.00	1.00	1.00	1.00	1.00
55	51	1	2	5	3	2	1	2	1	2	2	2	1	2	1	0	2	2	2	1	2	1	1	2	0	4	0	1	0	1	2.29	2.50	2.44	4.00	0.00	0.00	0.00	2.00
56	35	1	2	3	3	3	1	2	1	2	2	1	1	2	1	0	1	1	1	1	1	1	2	1	0	4	0	5	0	9	2.57	3.00	2.67	2.00	0.00	0.00	0.00	1.00
57	47	1	2	3	3	4	1	1	1	2	2	1	0	2	2	2	3	1	1	1	1	2	3	4	0	9	1	12	0	12	1.86	2.92	2.56	3.00	1.00	0.00	1.00	1.00
58	53	1	2	3	3	1	1	1	1	2	2	2	1	2	1	0	1	2	2	1	2	1	1	2	0	4	0	4	0	3	2.00	2.33	2.33	4.00	0.00	0.00	0.00	2.00
59	25	2	1	1	1	5	1	3	1	2	2	2	1	2	1	0	2	1	1	1	1	4	5	3	5	17	2	18	1	14	1.86	3.17	2.22	1.00	1.00	1.00	1.00	1.00
60	35	1	2	3	3	4	1	1	1	2	2	2	2	2	1	0	1	1	1	1	1	3	4	4	2	13	2	14	1	14	2.14	2.75	2.56	2.00	1.00	1.00	1.00	1.00
61	39	1	2	3	3	4	1	1	1	2	2	1	1	2	1	0	1	1	1	1	1	4	3	1	3	11	0	6	0	13	2.14	2.92	2.22	2.00	0.00	0.00	1.00	1.00
62	46	1	2	5	2	3	1	1	1	2	2	1	0	2	2	1	3	1	1	1	1	1	1	1	2	5	0	6	0	4	2.57	3.00	2.67	3.00	0.00	0.00	1.00	1.00
63	57	1	2	3	3	2	1	1	3	2	2	2	1	2	1	0	2	2	2	1	2	1	1	2	0	4	0	7	0	5	2.14	2.33	2.22	4.00	0.00	0.00	0.00	2.00
64	34	1	2	3	3	3	1	1	1	2	2	1	2	2	1	0	2	1	1	1	1	2	3	1	3	9	2	15	0	12	2.57	3.00	2.67	2.00	1.00	0.00	1.00	1.00
65	44	1	2	3	3	2	1	1	1	2	2	1	1	2	1	0	2	2	2	1	1	1	1	2	0	4	0	5	0	2	2.14	2.75	2.67	3.00	0.00	0.00	0.00	2.00
66	58	1	2	3	3	1	1	1	1	2	2	2	0	2	2	4	3	2	2	1	2	3	4	1	2	10	0	7	1	14	2.43	2.67	2.89	4.00	0.00	1.00	1.00	2.00
67	56	1	2	3	3	1	1	1	1	2	2	2	1	2	1	0	2	2	2	1	2	2	4	2	1	9	2	15	1	14	2.14	2.33	2.22	4.00	1.00	1.00	1.00	2.00
68	59	2	2	5	3	1	1	4	1	2	2	2	1	2	1	0	1	2	2	1	2	2	5	1	2	10	2	18	2	18	2.43	2.75	2.78	4.00	1.00	1.00	1.00	2.00

69	32	1	2	3	3	2	1	2	1	2	2	1	2	2	1	0	2	1	1	1	2	1	1	2	0	4	0	3	0	5	2.57	3.00	2.67	2.00	0.00	0.00	0.00	1.00
70	36	1	2	3	3	2	1	2	3	2	2	1	1	2	1	0	1	1	1	1	1	2	3	3	0	8	0	7	0	13	2.57	3.00	2.67	2.00	0.00	0.00	1.00	1.00
71	52	2	2	3	3	1	1	1	1	2	2	2	1	2	1	0	1	2	2	1	2	3	2	3	3	11	1	11	0	8	2.29	2.92	2.67	4.00	1.00	0.00	1.00	2.00
72	23	1	2	3	1	5	1	3	1	2	2	1	2	2	1	0	2	1	1	1	1	1	3	2	2	8	1	12	0	9	2.14	2.75	2.00	1.00	1.00	0.00	1.00	1.00
73	38	1	2	5	3	4	1	1	1	2	2	1	1	2	1	0	2	1	1	1	1	2	2	4	0	8	0	6	0	5	2.57	3.00	2.67	2.00	0.00	0.00	1.00	1.00
74	37	1	2	3	3	4	1	1	1	2	2	1	3	1	1	0	1	1	1	1	1	1	4	3	2	10	0	5	0	13	2.29	2.33	2.33	2.00	0.00	0.00	1.00	1.00
75	42	2	2	3	3	3	1	1	1	2	2	2	1	2	1	0	1	1	1	2	1	2	3	5	1	11	1	16	1	15	3.00	3.00	3.00	3.00	1.00	1.00	1.00	1.00
76	34	1	2	3	3	3	1	1	1	2	2	1	3	1	1	0	1	1	1	3	1	1	2	4	0	7	0	3	0	8	2.43	2.25	2.78	2.00	0.00	0.00	1.00	1.00
77	28	1	1	2	1	4	1	2	3	2	2	1	1	2	1	0	2	1	1	1	1	3	4	2	2	11	0	7	1	15	2.71	2.83	2.67	1.00	0.00	1.00	1.00	1.00
78	63	1	3	2	3	2	2	1	1	2	2	1	1	2	1	0	2	3	2	3	3	2	4	4	2	12	0	7	1	16	2.43	1.83	2.56	5.00	0.00	1.00	1.00	2.00
79	29	1	2	3	3	3	1	2	2	2	2	1	1	2	1	0	2	1	1	1	1	1	4	5	5	15	1	13	2	18	2.71	2.83	2.56	1.00	1.00	1.00	1.00	1.00
80	35	1	2	3	3	2	1	1	1	2	2	2	2	2	1	0	1	1	1	1	1	2	4	2	1	9	0	6	1	16	1.86	2.75	2.33	2.00	0.00	1.00	1.00	1.00
81	65	2	3	4	3	1	1	4	1	2	2	2	2	2	1	0	2	2	2	1	2	1	4	4	2	11	2	15	2	18	2.29	2.33	2.44	5.00	1.00	1.00	1.00	2.00
82	23	1	2	3	1	3	1	1	1	2	2	2	1	2	1	0	1	1	1	1	1	2	5	3	0	10	0	7	1	15	2.43	2.83	2.44	1.00	0.00	1.00	1.00	1.00
83	35	2	2	3	3	2	1	1	1	2	2	2	2	2	1	0	2	1	1	1	1	3	2	5	3	13	1	9	0	12	2.14	2.92	2.78	2.00	1.00	0.00	1.00	1.00
84	64	1	2	3	3	2	1	4	1	2	2	2	0	2	2	4	3	1	2	1	1	2	3	2	2	9	0	7	1	16	2.57	1.83	2.56	5.00	0.00	1.00	1.00	1.00
85	62	1	2	3	3	2	1	4	1	2	2	2	2	2	1	0	1	2	1	2	2	2	4	4	3	13	2	16	1	15	2.29	2.08	2.33	5.00	1.00	1.00	1.00	2.00
86	34	1	2	3	3	3	1	1	3	2	2	2	2	2	1	0	1	1	1	3	1	1	2	5	2	10	0	5	1	14	2.14	2.75	2.33	2.00	0.00	1.00	1.00	1.00
87	35	1	2	3	3	3	1	1	1	1	1	2	1	2	1	0	1	1	1	1	1	2	4	2	2	10	1	10	1	15	2.14	3.17	2.56	2.00	1.00	1.00	1.00	1.00
88	29	1	1	1	1	4	1	2	1	2	2	1	2	2	1	0	1	1	1	1	1	3	2	4	2	11	1	11	1	15	2.14	3.17	2.44	1.00	1.00	1.00	1.00	1.00
89	62	1	2	3	3	3	1	4	1	2	2	2	2	2	1	0	2	2	2	2	1	2	4	3	0	9	0	6	0	13	2.29	2.08	2.56	5.00	0.00	0.00	1.00	2.00
90	27	1	2	3	1	4	1	2	1	2	2	2	1	2	1	0	1	1	1	1	1	2	2	4	1	9	0	3	0	5	1.71	3.67	2.11	1.00	0.00	0.00	1.00	1.00
91	36	1	2	5	3	3	1	2	3	2	2	1	2	2	1	0	2	2	2	1	2	3	2	2	2	9	0	5	0	10	2.57	3.00	2.67	2.00	0.00	0.00	1.00	2.00
92	23	1	1	1	1	2	1	2	1	2	2	1	3	1	1	0	1	1	1	1	1	4	3	3	3	13	0	6	0	12	2.00	3.58	2.67	1.00	0.00	0.00	1.00	1.00
93	63	1	2	4	3	2	1	4	1	2	2	2	1	2	1	0	1	3	2	3	2	2	4	5	2	13	3	24	1	17	2.29	2.00	2.44	5.00	1.00	1.00	1.00	2.00
94	39	1	2	3	3	3	1	2	1	2	2	1	2	2	1	0	2	2	2	2	2	2	2	6	0	10	1	10	0	12	2.71	2.75	2.67	2.00	1.00	0.00	1.00	2.00
95	30	1	2	3	3	3	1	1	1	2	2	1	2	2	1	0	1	1	1	1	1	3	1	1	0	5	0	4	0	5	2.57	3.00	2.67	2.00	0.00	0.00	1.00	1.00
96	24	1	1	1	1	4	1	2	2	2	2	1	1	2	1	0	2	1	1	1	1	2	3	2	2	9	0	7	0	13	2.00	3.42	2.56	1.00	0.00	0.00	1.00	1.00
97	26	1	1	1	1	4	2	1	2	1	1	1	1	2	1	0	2	1	1	1	1	1	4	2	3	10	1	12	1	14	2.00	3.42	2.44	1.00	1.00	1.00	1.00	1.00
98	31	2	2	3	3	2	1	1	1	2	1	2	2	2	1	0	1	1	1	2	1	2	5	3	6	16	1	10	1	16	2.57	3.00	2.67	2.00	1.00	1.00	1.00	1.00
99	25	1	2	3	1	4	1	2	1	2	2	2	1	2	1	0	2	1	1	1	1	1	2	1	0	4	0	4	0	8	2.00	3.08	2.56	1.00	0.00	0.00	0.00	1.00
100	26	1	2	3	1	4	1	2	1	2	2	2	1	2	1	0	2	1	1	1	1	2	1	2	2	7	0	5	0	10	2.14	3.08	2.33	1.00	0.00	0.00	1.00	1.00

சுய ஒப்புதல் படிவம்

ஆய்வின் பெயர் : மூன்றாம் நிலை மருத்துவமனைக்கு வரும் ஊனமுற்ற நோயாளிகளில் ஏற்படும் மனப்பதற்றம் மனச்சோர்வு மற்றும் உடல் தோற்ற அமைப்பு நோய்களின் தாக்கமும் தீவிரமும் பற்றிய -ஓர் குறுக்கு பிரிவு ஆய்வு

ஆராய்ச்சி நிலையம் : மனநலப்புறநோயாளிகள் பிரிவு,
அரசு ஸ்டாண்ளி மருத்துவமனை,
சென்னை -600 001.

பங்கு பெறுபவரின் பெயர் :
பங்கு பெறுபவரின் எண் :

நோயாளி / உறவினர் இதனை (√) குறிக்கவும்.

மேலே குறிப்பிடப்பட்டுள்ள மருத்துவ ஆய்வின் விவரங்கள் எனக்கு விளக்கப்பட்டது. என்னுடைய சந்தேகங்களை கேட்கவும் அதற்கான தகுந்த

விளக்கங்களைப் பெரவும் வாய்ப்பளிக்கப்பட்டது.

நான் / என் உறவினர் இவ்வாய்வில் தன்னிச்சையாகத்தான் பங்கேற்கிறேன் . எந்த காரணத்தினாலும் எந்த கட்டத்திலும் எந்த சட்டச்சிக்கலுக்கும் உட்படாமல் நான் / என் உறவினர் இவ்வாய்வில் இருந்து விலகிக் கொள்ளலாம் என்று

அறிந்துகொள்கிறேன்.

இந்த ஆய்வு சம்பந்தமாகவும் , இதைச் சார்ந்த மேலும் ஆய்வு மேற்கொள்ளும் போதும், இந்த ஆய்வில் பங்குபெறும் மருத்துவர் என்னுடைய மருத்துவ அறிக்கைகளைப் பார்ப்பதற்கு என் அனுமதி தேவையில்லை என அறிந்து கொள்கிறேன். நான் / என் உறவினர் ஆய்வில் இருந்து விலகிக் கொண்டாலும் இது பொருந்தும் என அறிகிறேன்.

இந்த ஆய்வின் மூலம் கிடைக்கும் தகவல்களையும் , பரிசோதனை முடிவுகளையும், மற்றும் சிகிச்சை தொடர்பான தகவல்களையும் , மருத்துவர் மேற்கொள்ளும் ஆய்வில் பயன்படுத்திக் கொள்ளவுமதை பிரசுரிக்கவும் / பதிப்பிக்கவும் என் முழு மனதுடன் சம்மதிக்கிறேன்.

இந்த ஆய்வில் பங்கு கொள்ள ஒப்புக்கொள்கிறேன் . எனக்கு கொடுக்கப்படும் அறிவுரைகளின்படி நடந்து கொள்வதுடன் இந்த ஆய்வை மேற்கொள்ளும்

மருத்துவ அணிக்கு உண்மையுடன் இருப்பேன் என்றும் உறுதி அளிக்கிறேன். என் உடல்நலம் பாதிக்கப்பட்டாலோ அல்லது எதிர்பாராத வழக்கத்திற்கு மாறான நோய்க் குறி தென்பட்டாலோ, உடனே அதனை மருத்துவ அணிக்கு தெரிவிப்பேன்

என உறுதி அளிக்கிறேன்.

இந்த ஆய்வில் எனக்கு இரத்தம் , சிறுநீர், எக்ஸ்றே, ஸ்கேன் (MRI Scan), EEG உட்பட அனைத்து பரிசோதனைகளையும் தேவையானபோழ்து செய்து கொள்ள நான் முழு மனதுடன் சம்மதிக்கிறேன்.

பங்கேற்பவரின் / உறவினரின் கையொப்பம் .....
இடம் .....தேதி .....

கட்டை விரல் ரேகை ...

பங்கேற்பவரின் காப்பாளரின் கையொப்பம் .....
இடம் .....தேதி .....

கட்டை விரல் ரேகை ...

பங்கேற்பவரின் பெயர் மற்றும் விலாசம்

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ஆய்வாளரின் கையொப்பாம் .....
இடம் .....தேதி .....

ஆய்வாளரின் பெயர் .....

நோயாளியின் பெயர் ..... பாலினம் : ஆண் ..... பெண் .....

வயது .....ஆண்டுகள் அல்லது பிறந்த தேதி .....

நோயாளியை தொடர்பு கொள்ளும் முகவரி

.....

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.....

நோயாளியின் தொலைபேசி எண்.

நோயாளியின் தந்தை / கணவர் / உறவினர் பெயர் .....

		பங்கேற்பவரின் கையொப்பம்/பெரு விரல் பதிப்பு
1	மேலே குறிப்பிடப்பட்டுள்ள மருத்துவ ஆய்வின் ..... தேதியிட்ட நோயாளிகளுக்கான செய்தி நான் படித்திருக்கிறேன் மற்றும் புரிந்திருக்கிறேன்/ விவரிக்கப்பட்டுள்ளேன். கேள்விகள் கேட்கவும் அனுமதி வழங்கப்பட்டுள்ளேன் என நான் உறுதி செய்கிறேன்.	
2	இந்த ஆய்வில் பங்கேற்பது என் / என் உறவினரின் சொந்த விருப்பப்படியே என நான் அறிந்திருக்கிறேன் .. மேலும் என் / என் உறவினரின் மருத்துவ சிகிச்சை கவனிப்பு அல்லது சட்டபூர்வ உரிமைகளுக்கு பாதிப்பு ஏற்படாமல் நான் எந்த நேரத்திலும் விலகிக் கொள்ளலாம் என்பதை அறிந்திருக்கிறேன்.	
3	எத்திக்ஸ் கம்மிட்டீ மற்றும் ரெகுலேட்டரி அத்தாரிட்டீஸ்-க்கும் நான் இந்த ஆய்விலிருந்து விலகினாலும் தற்போதைய மற்றும் எதிர்கால இந்த ஆய்வு சார்ந்த என் / என் உறவினர் உடல்நல குறிப்புகளை என் அனுமதியின்றி பார்க்க முடியும் என நான் அறிகிறேன் . நான் / என் உறவினர் ஆய்வில் இருந்து விலகிக் கொண்டாலும் இது பொருந்தும் என அறிகிறேன்.	
4	இந்த ஆய்வின் மூலம் கிடைக்கப்பெறும் குறிப்புகளையும் தகவல்களையும் மற்றும் பரிசோதனை முடிவுகளையும், உபயோகப்படுத்த தடை செய்ய மாட்டேன் என சம்மதிக்கிறேன். அதனால் அவைகள் விஞ்ஞானம், ஆராய்ச்சிக் கட்டுரைகள் போன்ற சம்மந்தப்பட்டவைகளுக்கு பயன் உள்ளதாக இருக்க வேண்டும். இக்குறிப்புகள், அதன் விளக்கங்கள், ஆய்வுக் கட்டுரைகள் ஆகியவற்றை பிரசுரிக்கவும் / பதிப்பிக்கவும் என் முழு மனதுடன் சம்மதிக்கிறேன்.	
5	மேற்கூறிய ஆய்வில் என் சுய விருப்பத்தின்படி பங்கு கொள்ள நான் சம்மதிக்கிறேன்.	

ஆய்வில் பங்கேற்பவர் / சட்டபூர்வமாக

ஏற்கப்பட்ட நபர் கையொப்பம் அல்லது பெரு விரல் பதிவு

GOVERNMENT STANLEY MEDICAL COLLEGE& HOSPITAL,CHENNAI -01

INSTITUTIONAL ETHICS COMMITTEE

Title of the Work : Cross sectional study of prevalence and severity of Anxiety, Depression and body Image disturbance in amputees in a tertiary care Hospital,

Principal Investigator : Dr. Jyosna B.N,

Designation : PG. MD Psychiatry,

Department : Department of Psychiatry, Govt. Stanley Medical College.

The request for an approval from the Institutional Ethical Committee (IEC) was considered on the IEC meeting held on 22.07.2017 at the Council Hall, Stanley Medical College, Chennai-1 at 10am.

The members of the Committee, the secretary and the Chairman are pleased to approve the proposed work mentioned above, submitted by the principal investigator.

The Principal investigator and their team are directed to adhere to the guidelines given below:

1. You should inform the IEC in case of changes in study procedure, site investigator investigation or guide or any other changes.
2. You should not deviate from the area of the work for which you applied for ethical clearance.
3. You should inform the IEC immediately, in case of any adverse events or serious adverse reaction.
4. You should abide to the rules and regulation of the institution(s).
5. You should complete the work within the specified period and if any extension of time is required, you should apply for permission again and do the work.
6. You should submit the summary of the work to the ethical committee on completion of the work.

22.11.17.

MEMBER SECRETARY,
IEC, SMC, CHENNAI

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